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Farm Department.

Conducted by J. H. Brown, who lives on his farm at Climax, Mich., which is conducted as the Michigan Farmer Experiment Farm. All correspondence for this department should be sent to Climax, Mich.

For The Michigan Farmer.

CUTTING CLOVER.

There have been various methods and suggestions given about cutting clover. Some put it in the mow green, some draw right from the windrow and some cock it up and let it remain until "cured."

Good hay can be made by any of these methods, provided the weather is all right, and the clover not allowed to stand too long before cutting so that it becomes woody. Clover should be cut before hardly any of the heads begin to turn brown. If cut at this stage of growth and fairly cured out with no rain on it, you will have good hay, no matter whether it was cocked up or drawn direct from the windrow.

Last year I lost 40 tons of clover by cocking it up. I wanted to get it cut as soon as possible so as to give a good chance for seed. We had a rainy week before, and on Monday the weather looked favorable. Then hurrah, boys, and down went the hay, and it was all put up in cock nicely when a little cloud came up, preceded by a little puff of wind sufficient to blow all the tops off the hay. Then the clouds began to gather and we had one of the hardest rains I ever saw. There was not a dry straw to be found. For three days these rains were kept up with nearly time between showers to dry the hay. We spread it out and bunched it up as often as we could, but it spoiled so that we only drew three small loads of it in for bedding. Now this is where we lost our hay by cocking it up.

Had we proceeded in the usual manner and drawn from the windrow as fast as cured, we could have saved much of it. Such thing might not happen again in 20 years, but it caught us the first time we tried it. One thing we should guard against, and that is we should not cut down too much at a time. Keep it taken care of as fast as cut. Cut a little each day and get it up as soon as possible.

When I say cut a little each day, I mean, of course, an amount in proportion to the amount you have to cut. If you have a hundred acres you will have to cut a large amount to get this little I speak of. I guess you all know what I mean.

Then again, it is not necessary to cut any more for hay than you need for your use. It don't pay to sell it, and at the present price for stock feeders, I mean it don't pay very well to buy stock to feed. So if you have more clover than you need, why not let it lie on the poorer places of your field?

We have 24 acres of heavy clover to cut, but 12 acres of this will make all the hay we can possibly use, with all the cornstalks we will have. Now this week, June 15, we will start the machine in the 12 acres on the poorer side of the field and let it lie just as the machine cut it. The divider will be removed from the machine so as to spread the clover more evenly over the ground. The warm, damp ground that we now have will soon start the second growth, and we expect a crop of seed from this 12 acres.

It seems that such a heavy growth would smother the second growth out, but we have tried it before and had no trouble. The clover being green would dry away much more than if it were more mature, and soon gives the second growth a chance to get through.

We would not hesitate to cock our hay up again, although we lost so much last year by doing it; but we will go a little

more carefully and not strike out quite so boldly.

There is no hay so good for all kinds of stock as well made clover. Less grain will be required with it than with any other hay. It is the best hay in the world for work horses. A team will do more work on it with less grain than any other hay.

The best for sheep, cows, and even the hogs will do well on it. Brood sows should have it every day through the winter. Feed them less corn and more good clover hay.

Therefore it will pay us well to look well to the making of our clover hay. There is more clover spoiled by drawing it to the barn with dew on it than any other way. Clover should have no foreign moisture on it. The dew should be all gone in the morning before commencing to draw in, and drawing in should cease in the evening before any dew begins to fall. Hay will do to go in quite green, provided it contains no moisture other than what is in it naturally.—I. N. Cowdrey, Gratiot Co., Mich.

For the Michigan Farmer.

CONDUCTING WATER.

Not long since I saw, in one of my papers, a description and illustration of a method of pumping water by means of a windmill up to an elevated cistern,

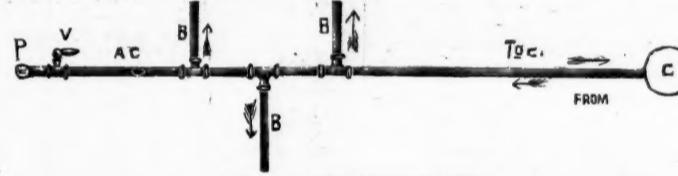


FIG. 1.—CONDUCTING WATER.

on a hill, and conducting the water from the cistern to the barn. Two pipes were used, one from pump to cistern and one from cistern to barn. There is no need of two pipes. All that will be required will be to place a check valve in pipe near pump, next a small air chamber (made of 2 or 2½-inch pipe), after which as many branches as may be desired may be taken off, and continued to "bottom" of cistern or tank.

The air chamber is not absolutely necessary, but it will relieve the pipe of "water-hammer," in case the water is suddenly turned on or off at one of the branches. The "return flow" of water in pipe will not affect the action of the pump, and the check valve will prevent any "back-leaking" into well, when pump is not working. Pipes under ground should be galvanized.

The cut shows what I mean. C is the elevated cistern or tank. Arrows show flow of water to and from C. P is the pump, B, branches, AC the air chamber, and V the check valve.—Edw. C. Post, Monroe Co., Mich.

For the Michigan Farmer.

SOIL FERTILITY.

Crops, like stock, are unable to produce a good growth without food, both in variety and abundance. Commercial fertilizers have been well tested during the past few years by experimental farmers, and the conclusion drawn by them is not very satisfactory. This, however, may be caused by such farmers having their soil in almost a perfect state of cultivation, and already rich in plant food before the test was made. Such soil when cropped in rotation will yield abundantly without fertilizing, and it is no wonder that the experiments ended as they did. Nevertheless, more commercial fertilizers are being used now than ever before in one year, which is partially due to the increase of population among the agricultural class, and to the run-down farms of the cen-

tral states whose owners are in hopes of restoring their soil once more to its natural productiveness.

But when the soil is once restored to its fullness of plant food as nature left it, will it be practical to lay out large sums of money each year for ingredients that can just as well be produced on the farm? Then again, can soil ever be restored to this fertile condition simply by the application of such fertilizers? Of these, every farmer must be his own judge, for what may prove successful on one farm may prove exactly the opposite on another, though it be only across the highway.

From experience some farmers have been taught that different crops, when consumed by stock and the refuse retained on the farm for manure, varied in their elements of fertility, the cause to them being unknown. Scientists have made plain to us the cause of this, which is found in the simple fact that some crops exact from the soil only a small percent of organic matter, while others get nearly if not all of their food direct from the soil.

Nitrogen is one of the constituents most liable to be found wanting in soil that has been cropped without regard to crop rotation. This is also one of the most expensive ingredients to replace, if one is in a hurry to do so. But nitrogen can be restored to the soil without cost and by simple methods.

were grown. The grain is also made into manure and left evenly distributed over the field without the aid of manual labor.

By my own experience on a field that had grown two crops of oats, the first year yielding 50 bushels per acre and the second only 40, I was convinced that the first crop consumed the available plant food to such an extent that the second crop fell short one-fifth the amount produced the first time. Not having sufficient stable manure to cover this field at the time, I left off all kinds of fertilizers and sowed it to peas twice, letting the hogs harvest them each time. I plowed it again and sowed to oats. What was the result? Sixty bushels of oats per acre.—Elias F. Brown, Hillsdale Co., Mich.

(We think friend Brown's success in securing the excellent yield of oats, the last time, was more from the compact condition of the seed bed than he gives credit for. Fall plowing has done more to secure a good yield of oats, even on corn stubble that had grown two successive crops, than spring plowing of clover meadow could accomplish. The percent of moisture in the surface and subsoil, all through the months of May, June and July, largely determines the profitable yield of oats when threshing time comes.)

As to the commercial fertilizers, the only plan we can recommend is for each individual farmer to test for himself. No soil analysis can guide one into the selection of a "formula" as to ingredients. Barnyard manure, clover and chemicals make a good combination in the work of not only restoring but increasing the fertility of the farm. As to how this combination must be "worked" by the individual farmer, we leave for the individual himself to solve, for no one else can solve it for him.—Ed.)

PHOSPHATE VS. MANURE FOR WHEAT.

During the past week we have had over an inch of rain, principally in two showers accompanied by considerable wind. The rain has done a world of good to pastures, meadows, oats, corn, potatoes, orchards, lawns, gardens, small fruits, and thin wheat. But heavy wheat on land where stable or yard manure was worked in before the wheat was drilled in, is very badly lodged. Much of my own, on land thus manured, is so badly lodged and tangled that I fear it will not fill well. Also that it will not be possible to save it all with the twine binder. On the other hand, that which had ammoniated superphosphate and no manure, is scarcely lodged at all, though some of it is about as heavy.

My own theory is that the relative excess of nitrogen (and possibly potash) in the stable manure causes the rank and rather limber growth and hence the lodging. The phosphate I use contains about the following number of pounds per hundred of ingredients quickly available: Ammonia, 3 to 4; phosphoric acid, 12 to 15; potash, 1 to 1½. The stable manure contains about the following number of pounds per thousand (not hundred) pounds of ingredients slowly available: Ammonia, 6.1; phosphoric acid, 2.6; potash, 6.3. In other words, my superphosphate has 4 times as much phosphoric acid as ammonia and 12 or more times as much phosphoric acid as potash.

But on the contrary the manure has less than one-half as much phosphoric acid as it has either of ammonia or potash. Or, to boil the statement down into still more intelligible and striking form: Good stable manure is relatively more than 8 times as strong in nitrogen compared with phosphoric acid as most of the superphosphates are that are used on wheat; and the disparity is still more

striking in regard to potash. And so I think it is the undue proportion of nitrogen (and perhaps of potash) that tends to lodge the wheat. At all events I always dislike to use manure, except very sparingly, on wheat or oats, and shall be even more careful in that respect after this year's experience.—W. I. Chamberlain.

THE VALUE OF STACK COVERS.

Farmers that have not used them can hardly realize their usefulness and value. Notwithstanding their value but a small minority of farmers have them. We have worn out two sets made of muslin and oiled, and now have two, made of No. 8 canvas. We have always used them in pairs of the same size, each one large enough to cover a load of hay or wheat and both together large enough to cover a large rick of hay or wheat.

With these covers we can often build a part of a rick of hay or wheat, or haul loads of hay, that we would be afraid to undertake if we did not know that they could be covered on short notice and left till the weather allowed a continuance of the work.

We can load the wagons with clover hay later in the evening than it would be desirable to put in the mow, cover them till morning, and then unload into the mow. The generated heat, followed by airing out by handling, will drive out excessive moisture and make it safe to put in the mow.

Often the farmer will delay starting work in the hay field or wheat field, because of the appearance of rain, the uncertainty of the weather keeping him out of the field all day, when if he had been in possession of stack covers, the work could have gone steadily on all day. In catching weather we have been able to get hay in the rick by short periods of work and the use of stack covers that it would have been impossible to accomplish without them.

Covers that will last for two or three seasons can be made of heavy muslin oiled with linseed oil. Make the covers the desired size, fold them together lengthwise and the width of the muslin used in making them, then with a brush carefully cover the top fold with oil. Two persons—one at each end—should then twist or wring the cover, as our mothers used to wring bed quilts, but instead of wringing the oil out it distributes it evenly through the goods. If on unfolding it is found that the goods is not evenly oiled, fold up again, and brush on more oil and then wring again.

When oiled, the cover should be spread out on the ground, or hung on a line till perfectly dried. It should never be folded till dry, or else it will heat till ruined. When the cover is wet by rain or dew it should be thoroughly dried before folding up. If folded damp it soon molds and rots.

But after our experience in making two sets of two such stack covers out of muslin, and then oiling, we concluded that it is preferable to purchase of the manufacturers covers of suitable weight drilling or canvas, made to order the size that we wish. [This is also our experience.—Eds.] No. 8 goods we think plenty heavy, used without oiling, and we think they will last longer than if oiled.

No article belonging to the farm equipment is more in demand during haying and stacking time, none more easily loaned, nor more apt to get injured or ruined. Yet notwithstanding this fact, farmers that know their value are slow to be without them. The saving that they may accomplish in one day will be more than their cost.—John M. Jamison, Ross Co., O.

STORING GRAIN.

Probably no good farmer will deny that there is a great loss in storing grain and corn on the farm. On most farms the grain bins are located in the barn or wagon-house, and are infested with rats and mice, which cause great destruction. I never have seen a bin which was not subject to the depredations of these pests. If lined with tin they might probably be kept out, but this would be quite expensive and not very satisfactory. The ordinary corn-crib is also a harbor for rats and mice. I am pretty well convinced that in the space of a few years they will destroy grain enough to pay for a good granary.

When I moved to my present place I found just such arrangements for storing grain, namely, a corner upstairs, in the horse barn, shut off for oats, and an old-fashioned crib outdoors. Mice had free swing in both of these and destroyed many dollars' worth of grain every year. As soon as I could get to it I built a place for grain which pleases me very much. The timbers are 8x8, of hard wood

throughout. The posts rest on large stones. Four feet from the ground the sills are framed into the posts. At one end the tenon of the sill enters the post, while on the other end the post and sill are "halved" together, allowing the sill to run by the post 18 inches. The plates project on the end last described 2½ feet. In this end I store my corn, the siding being made of battens running up and down, with a space of one inch between

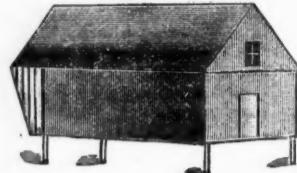


FIG. 2.—FRONT OF GRAIN HOUSE.

them, to admit the air. Inside, an alley runs the whole length of the granary, allowing one to reach the corn-crib and the grain bins on either side.

Scantling of 2x4 stuff run from the beam in the front end to that at the rear. Under this, at regular intervals, are set posts of the same size. From these posts, boards of planed material run to the outside wall, forming the sides of the bins. The end next to the alleyway is made of planed boards which may be taken out easily, as needed. The entire interior is ceiled with three-eighths pine. Overhead, boards may be put down for surplus corn if needed. The tops of the posts, nearest to the floor, are tinned to keep mice from climbing up them. The building is sided with hemlock boards, and all painted red with trimmings of white. A window in the gable lets in plenty of light. No mice have found their way into this building yet. We enter the granary by a light ladder which is put up when we want to go in and carefully taken down when not needed. Figs. 2 and 3 show the appearance of this building, front and rear.—E. L. Vincent, Broome Co., N. Y.

CLOVER AND SORREL.

Raised corn two years on same field. Cultivated and tended well; followed with wheat after second crop and seeded to mammoth clover the following spring—1897. We now have more sorrel than clover. What shall I do with this field this year? I am about ready to plow and summer fallow it, then sow wheat and seed again. This field has grown clover that could not be raked on account of thrift.—J. M. Sone, Newago Co., Mich.

(It seems to us better to plow under, to wheat and seed down again.—Ed.)

HAYING CONVENiences.

I believe there is more time wasted at haying than at any other season of the year. The first waste is in using too small mowers. With meadows of fair size and tolerably free from stumps, as most of the meadows in this section are, it is a mystery why any farmer should purchase a machine with less than a 6-foot cut. The difference in draft is not

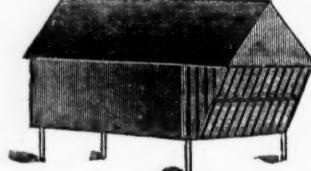


FIG. 3.—REAR OF GRAIN HOUSE.

noticeable and the time saved during the life of the machine will more than pay for the machine. If anyone doubts that statement, let him take his pencil and "figger" for a little while. I never knew a farmer to go back to the narrow cut after using the wide, and one of our farmers who puts up a large amount of hay was so pleased with the 6-foot cut that he ordered a 7-foot machine and was pleased with it.

Then there is the side delivery hay rake. When I begin to brag on this machine my friends say "Well what is a side-delivery rake like?" Well, I say it is a tedder, only instead of kicking back it kicks forward at an angle of 45 degs. Now study that a moment and you will understand the whole thing.

This machine is another great timesaver because the rake following the mower is all the time raking the dryest hay. It leaves it thrown up in a small loose windrow, in the best possible condition for sun and air to do their work. The rake takes about 10 feet at a time, but in use I generally rake one 6-foot swath and throw it on the next and thus the loader following takes up 12 feet at a time. If the hay should be very light

I start backwards at the end of every round and thus throw two swaths together. In case the hay should not be dry enough to load when the raking first begins, after a few rounds on the windrow and the rake turns it exactly upside down and in a very short time it is ready for the mow. It is a perfect tedder and a perfect rake and the work is all done at one operation.

The third implement in the trio is the hay-loader. This we have used for the past eight years and the work is as near perfect as can be. A man or a boy or girl to drive and two active men on the wagon and the work of loading a ton of hay is reduced to a minimum and the time to about 10 minutes.

With these three machines I think I can make hay as cheaply as anybody and with the least possible outlay of elbow grease and sweat, and I hereby challenge my brother Ohio farmers for a comparison of expenses this season.—John B. Peelle, Clinton Co., O.

NOTES AND QUERIES.

Adamant Plaster.—Where can we get the best adamant to use in plastering house? A. S., Bluffton.—All large dealers in lime, cement and other building supplies usually keep some kind of adamant for plaster. It is not our place to say which make is best.

Enlisting in Regular Army.—Where can I go to enlist in the regular army? And to whom can I apply? I wish to join for three years as a regular. R. F., Highland Co.—Recruiting offices, both for volunteers and regulars, have been opened in our large cities and in most of our county seats. Inquire of the mayor of your county seat or write the mayor of your nearest large city.

Mill for Grinding Bone.—Can you name a responsible firm which manufactures a mill that will grind dry bone for fertilizers? The bone is hard and has not been steamed or boiled. S. L. M., Savannah.—Such mills cannot be profitably used except with steam power and are themselves very expensive if of a kind to grind the bone sufficiently fine. If you wish to go into the business of grinding bone extensively inquire of any large fertilizer manufacturer in regard to mills for grinding.

Farming by Irrigation.—Can you furnish a practical work on irrigation of small fruits that will suit this part of our country? I would like to know if ponds or cisterns would do for water supply? C. F. M., Monroe.—Send \$1.30 to this office for the book "Irrigation farming," published by the Orange Judd Co. It gives excellent instruction and suggestions. Ponds and cisterns must be very large or the supply will be too small, and must be situated higher up than the land you desire to irrigate or the expense of pumping will be too large, except for small areas.

Clothing for Harvest Excursion.—What will be necessary for the Michigan Farmer harvest excursion—in the way of dresses? What kinds and how many? Will some one be kind enough to give a few suggestions? Ignorance.—If you are going simply for the four days' trip, we would suggest one heavy dress for cool days and one light one for warmer days, with perhaps an extra shirt waist. Also a good warm wrap of some kind will be needed for sitting out on deck chilly nights and mornings. In general, let us suggest that you are going for comfort and rest and not for the display of clothing and that you should study to take just enough to meet the former end and not the latter. Let our lady friends discuss the matter briefly in our columns.

Connecticut or Ox-eye daisy.—I have a field infested with a weed that I think is very injurious to land and crops. Farmers in this neighborhood are very much alarmed about it. I enclose one for you to see. Roots are about like wire and in dry weather it cannot be pulled up. Please give best way to get rid of it. J. L. S., Crumroy.—The sample you send is the Connecticut or Ox-eye daisy, one of the worst weeds known. You may well be alarmed. If there are only small patches of it at present, combine with your neighbors and make thorough work. Pull all in sight in a wet time when they are in bloom and drop a small handful of salt in the place where you pulled the daisy. Each farmer can rid his own farm of the pest, with care, whether his neighbors do so or not, for the seeds do not blow with the wind, though they may wash down stream in a flood. The seeds are chiefly carried and distributed through the stomachs of animals that eat grass or hay in which mature daisy seeds are found. Large portions of New York state and New England are overrun with this beautiful but most injurious weed. We cannot too strongly urge the importance of exterminating it in your locality or in any other in which it is new and not widely spread.

The Dairy.

We have a complete Dairy and Farm Creamery in constant operation on the Experiment Farm at Climax, Mich. This is personally conducted by J. H. Brown. All dairy correspondence should be sent to Climax, Mich.

For the Michigan Farmer.

A SMALL DAIRY THAT PAYS.

We are milking six cows now. One has been giving milk about a year and the others have come in at different times since, down to a month ago. Several heifers, giving milk for the first time; but taking them right through, they average a pound of butter a day. One ten-year-old Shorthorn, that dropped her calf Feb. 1st, has been giving 40 pounds of milk per day for the last month. It only tests 3.5 percent fat. One promising two-year-old heifer that has been giving milk about a month averages 28 pounds per day; it tests 4.8 percent fat. One of my neighbors has an old-fashioned Shorthorn cow that descended from a line of heavy milkers. She calved about a month ago and is giving 60 pounds of milk per day. I tested a sample for them that showed 3.4 percent butter fat.

Early sown clover is reported as having a poor stand. I sowed 8 acres last year without any nurse crop. It is looking fairly well. This spring I sowed the remainder of the field, 10 acres, in the same way and with favorable weather I will secure a good crop.—Wm. Van Ness, Cass Co., Mich.

[Your cows are doing well and with your recent Babcock accompaniment and the scales you are fairly started in the process of breeding up and weeding out. If your Shorthorn cow is a persistent milker she will prove a good butter maker. Quantity and quality must go together to make a profitable cow for the dairy.

We too have tried the plan of sowing clover alone, but during the last two seasons there has been sufficient moisture to secure just as good results when the clover was sown in wheat in early spring.—Ed.]

RAISING A CALF.

Writers for our farm journals are not explicit enough. They take it for granted that their readers know a good deal, and it is not necessary for them to explain everything. For example, we have two calves, one a heifer intended for a cow, the other a steer. We want to know how to feed those two calves, exactly. We find an article in one farm journal on "How to manage young heifer calves," and it tells us not to feed and manage as we would for a steer calf intended for a feeder. These old, experienced cattle-raisers should not expect us young farmers to know what ration to feed in each case, exactly. They should make these points plain, and it would be a great help. They tell us, too often, what not to do, and leave us to discover what to do.—E. A. Morrow Co., O.

There is much truth in this. Readers of agricultural papers do not need exhortation so much as information, and they want that information direct and explicit. Tell what to do and how to do it, with the fewest words possible. The following, condensed from "Feeds and Feeding," will give an idea of the character of this most excellent book:

Give the calf the first milk, for two or three days, then take it from the cow and feed it warm full milk three times a day or oftener till two or three weeks old, after which skim-milk is gradually substituted. From one to two weeks should pass in changing from milk to skim-milk. Oil meal converted into a jelly by adding boiling water, is relished. Use a teaspoonful of oil meal at first and gradually increase until half a pound is used per day. (It should reach ½ lb. per day by the time the calf is 6 weeks old.) Put the oil meal jelly in the milk, and warm the milk until it is milk-warm. Do not feed over 10 lbs. of full milk per day at first, increasing to 15 lbs. at two or three weeks old. Then increase the daily supply of full milk and skim-milk gradually, as the skim-milk is increased, and at 5 weeks old, or thereabouts, the ration should be 18 to 20 lbs. daily, and in rare cases (large calves) 24 lbs. Overfeeding has destroyed thousands of calves. If the calf does poorly on skim-milk see if it is not due to feeding too much, feeding it too cold, or feeding irregularly. Corn meal and oat meal can be added to the skim-milk ration as the calf grows, and it should be taught to eat grain. Put a little oat meal or corn meal in its mouth after it has had its milk food. Provide a trough in which put a little oats or corn, and with a little teaching the calf will soon learn to eat it. Hay from early cut grass or clover

should also be supplied. The calf, for dairy purposes, should be kept growing steadily but not pushed to fatten. It should not gain over $1\frac{1}{2}$ lbs. a day for the first 4 months and less thereafter. Keep the calf in a grass lot and it will soon learn to eat grass. The spring calf will be ready for cornfodder, clover hay, or silage, by the time winter comes, and should have a little grain daily. Bran, barley and oats are excellent for this purpose.

The steer calf should be crowded as much as possible. It should have full milk longer, and the oil meal and other grain additions should be increased faster. Pasture grass should be the main reliance as soon as possible. Oil meal, oats and corn are the best concentrates, with a liberal amount of roughage. For veal, the calf should have all the milk it wants, fresh from the cow, and have nothing else until it is slaughtered.

For the Michigan Farmer.

DONT'S FOR DAIRYMEN.

Don't let milk stand in the stable exposed to the stable aroma. Remove it as soon as possible after it is drawn.

Don't allow milk to stand until it becomes cold before straining or setting to cream.

Don't think your milk is clean because you have strained it. The strainer only removes the lumps; the smell remains.

Don't disturb milk while the cream is rising; any disturbance will cause the butter globules to sink never to rise again.

Don't let milk stand after it is ready to set for creaming, but set as soon as possible. Upon rapid and immediate cooling depends the amount of cream that will rise.

Don't allow milk to stand until it has become "clabbered." Skim regularly and while the milk is still sweet, if possible.

Don't mix sour and sweet cream; keep it separate until all is ripe.

Don't think because you scald and wash pails, cans and churn, that they are sweet and clean; they need sun and air as well as water.

Don't keep cream after it is ripe, but churn at once.

Don't think you can tell the exact temperature of cream by dipping in your finger and putting it to your cheek; use a thermometer.

Don't think that three or four degrees difference in temperature in the cream will make no difference when churning.

Don't churn until the butter gathers in a large lump. Stop when the butter is in granules as large as grains of wheat.

Don't try to work the buttermilk out of the butter; wash it out while in the granular stage.

Don't send it to market wrapped in parts of cast-off clothing.

Don't think that because you say you make good butter your customers will agree with you; their tastes, not yours, must decide.

Don't think you can fool a cow by feeding short rations; she isn't built that way.

Don't think you can coax a cow to give her milk by using a No. 10 boot in the argument.

Don't think that because some men say so a cow is merely a machine. She is the most nervous animal of all animals.

Don't think that a cow is a stranger to affection or that she will not appreciate a kind act.

Don't exercise your cows by sending the dog to bring them from pasture.

Don't be too aristocratic to associate with the growing calves. Keep on friendly terms with them, so they will need no introduction when they come to work.

Don't think that because a cow is a good looker she is a good cow; the reverse is invariably true.—M. E. K., Altamont, Kans.

EFFECT OF EXCITEMENT UPON THE COW'S HEALTH.

Does excitement have a bad effect upon the health of the cow?

This is a serious question and one which every dairyman will do well to seriously consider. We are not, many of us, engaged in dairying as a pastime nor for the sake of health primarily, and we must in these days of close competition and low prices, guard our interests very carefully. I believe no man in any occupation is more wasteful of his resources than the farmer. Sometimes this results from a lack of positive knowledge and sometimes from a total disregard of whatever is best for him.

Now, we know that anything which works upon our feelings in a marked degree, has a deleterious effect upon the state of health. Very often we are prostrated, not by hard work, but by anxiety or other disturbing influences which may be beyond our control. The nervous organism of the cow is susceptible

to just such changes. The modern methods of testing the quality of the cow's product proves conclusively that if she is not treated kindly she will resent it in a way to touch our purse, and that very speedily.

I know of one herd where, on one side of an alleyway, in the stable, a good milker and a bad one were employed all summer. The cows on the side of the bad milker were "off the hooks" a good share of the season. It was a daily occurrence to hear him shouting, pounding or kicking his cows. Only just across the alley was a man milking at the same time in a quiet, peaceful manner. His cows showed none of the disposition to be ailing which manifested itself in the noisy and rude milker.

Such things as this convince me that from a pecuniary point of view alone it stands us in hand to treat our cows kindly. Then, too, what can we think of the man who habitually yells at and otherwise illtreats his stock? When I was a boy, I milked all one summer for a neighbor who almost every day had a perfect tantrum with one cow. It may be she was not a pleasant cow to milk; but he made matters no better by misusing her. I never shall forget the way he treated that cow. He never succeeded as a farmer; everything went wrong, and I cannot help thinking that this was partly due to the way he abused his stock.—E. L. Vincent, Broome Co., N. Y.

CHEESE IN THE ARMY.

We have often wondered why cheese was not made a part of the army rations for soldiers. It is wholesome, nutritious, concentrated food, requires no cooking, is always ready, and would be eagerly eaten by nine-tenths of the boys. In the present war our soldiers are in the tropics, unacclimated, and cheese with its mildly astringent qualities is just the thing to counteract the laxative effect of tropical fruits, which is one of the leading dangers to which they are exposed. We are glad that a movement has been made in this direction, and it should be fortified by the united influence of the dairymen of this country. Prof. W. A. Henry, of the Wisconsin University, writes June 18, as follows, urging dairymen to write to their respective congressmen without delay:

Congressman J. H. Davidson, of Wisconsin, has introduced a bill in the house of representatives providing that pure and wholesome cheese shall hereafter constitute a portion of the ration of our soldiers. Such a measure is timely and important, for cheese is one of the cheapest foods available to man. It is condensed, has no waste, requires no preparation for consumption and is peculiarly suited for nourishing soldiers in their fatiguing labors in a tropical climate.

Every person interested in dairying should work for the wider distribution and more general use of dairy products. Every farmer who reads this article is urged to write at once to his member of congress in both houses, urging their immediate support of the Davidson bill. If our dairymen will do their duty, congress will no doubt enact the Davidson bill into a law within the next two weeks, in time to render our soldiers now in the field a genuine service.

Butter makers as well as cheese manufacturers are interested in the measure, for every pound of milk turned into cheese leaves the market in that much better shape for butter, and aside from personal interests we are all desirous of seeing dairy products more largely consumed because of their wholesomeness, palatability and the low cost for nutrition furnished.

Congress is now debating the question of adjournment, and unless there is quick action by our people the measure may fail this session. Will not every dairyman make this a personal matter and write at least a postal card to his representative and senator, urging that they support the Davidson bill? "In union there is strength." Let us see how quickly the Davidson bill will become a law!—W. A. Henry, Dean College of Agriculture, Madison, Wis.

CORONATION OF THE QUEEN.

The Texas Farm and Ranch, in announcing a special issue to be devoted to the coronation of the cow as queen of domestic animals, says:

The cow is not only the chief factor in the sustenance of American childhood, American manhood and American womanhood, but is the hope of the country for the financial regeneration of its greatest industry. The cow has been neglected too long already; she

has been permitted to browse the scant herbage of overstocked ranges; has been worried by dogs, harried by cowboys with lariats and red hot branding irons. She has been branded and counterbranded, bored for hollow horn, gashed for hollow tail, but at milking time she turned up smiling, and after being curried with a handspike, with one eye on the gap and the other on the masculine milkmaid, kicked the pail over the back fence and made a break for liberty. After all this, she has stocked the plains with her progeny, garnished the butchers' blocks with their mortal remains, fed our babies, nourished our youth, strengthened our manhood, added bloom to the cheek of beauty, and wealth to the cattle kings and the country. But we have the new cow, the educated and accomplished cow, as proud of her pedigree as if it extended to the May flower. We have unlimited faith in the civilized cow. Like the apostle Paul, "We know in whom we have believed."

MILK FOR FACTORIES AND CREAM-RIES.

J. H. Findlay, instructor in the "home dairy," at the Guelph, Ontario, dairy school, gives the following directions on the care of milk for cheese factories and creameries, in Bulletin 107, recently published:

Patrons should exercise great care in the handling of milk supplied to cheese and butter factories. The cows should be kept in clean, light, warm and well ventilated stables during the winter. Food likely to taint the milk should not be fed at any time. They should have access to pure water and salt at all times. The cow's udder should be brushed with a damp cloth or with a soft brush before commencing to milk. The milking should be done with clean, dry hands, and as quickly as possible, care being taken to get the "stripings," which are the richest part of the milk. The main points to be observed in caring for milk are:

1. Immediately after milking strain through a fine wire and cloth strainer.
2. Remove the milk as soon as possible to a place where the air is pure.
3. Aerate by using a dipper, by pouring, or an aerator.

4. Keep the night's and morning's milk separate as long as possible. Use pails hung on hooks fastened to a pole under roof to hold each cow's milk separately over night.

5. Do not cool for cheese-making, unless when holding Saturday night's and Sunday morning's milk until Monday. In hot, muggy weather, or at any time when it is likely to be over-ripe, milk should be cooled.

6. Cool milk for the creamery to 60 degs. or below after aerating.

7. Protect the milk from rain and sunshine by having covered stands with latticed sides to allow a free circulation of air around the milk cans or pails.

8. Wash all cans, pails, etc., immediately after use, in warm water; then with scalding water; and where possible, steam them. Wash cans at the factory or creamery where practicable.

9. Do not return whey, sour skim-milk, or buttermilk in the milk can.

DAIRY JOTTINGS.

Small jars can now be obtained for holding samples of butter, which many dairymen send out to obtain customers; the jars are returned and if the sample proves satisfactory an order accompanies it for a certain amount per week, to be delivered at a specified time.

If cans are used for setting the milk in, the seamless ones, of pressed tin, are to be preferred; if there are seams in the cans used, it is well to go over the seams often with a pointed iron tool covered with cloth, in order to remove all accumulations which have lodged in them.

If an ordinary wire strainer is used for milk, try straining afterward through a strainer cloth. You will be surprised at the amount of foreign matter that will come to view; that is, unless you have an exceptionally careful milker.

Strain milk as soon as possible after drawn; by so doing particles that would impart an unpleasant flavor, if allowed to dissolve or circulate, will be removed before they can fulfill their mission.

An easy and cheap way to aerate milk which has an unpleasant or "cowey" odor, is by pouring from one vessel into another, arranging so that a current of air can pass through the fluid. Repeat the pouring several times.

Keep the wire strainer open and free from germs by rubbing with fine dry salt once a week. A lump of salt can be used, or it can be applied with a clean, dry cloth. Rub first one side then the other, brushing off salt, etc., at each rubbing; by this process all excretions will be re-

moved and the strainer be as bright as a new one.

If crocks are used for milk setting they should be well glazed, as they will be easier to clean than rough ware, and the cost is no more. The wooden covers for milk crocks often become discolored by a fungus or mold forming on them. To prevent this, allow the fresh-drawn milk to remain uncovered for a half hour; the animal heat will be gone by this time, or much sooner if it has been aerated or aired before placing in the receptacles. If the covers are allowed to become blackened, an unpleasant odor is given to the milk, and this is transmitted to the cream, and handed down with interest to the butter product.

Throw cream that is moldy to the pigs; if in this condition, it is in a state of putrefaction. The dairy, whether in the cellar or above ground, should be dry, cool and airy. The first two conditions must be had or it will be impossible to obtain either the desired quality or quantity of butter. The cellar should have screen windows in summer. The outer shutters should remain open during the night so as to allow all the cool air possible to penetrate everywhere, and they should be closed at an early hour in the morning and remain closed through the day. The cellar door should remain open warm nights also, if it is provided with an inner or screen door and promptly closed at dawn. By managing in this way coolness will be possible in the very hottest weather in a degree not attainable otherwise. A box of lime should be kept in the cellar at all times, and renewed occasionally. The lime will absorb odors which would find their way to the milk.—Doris.

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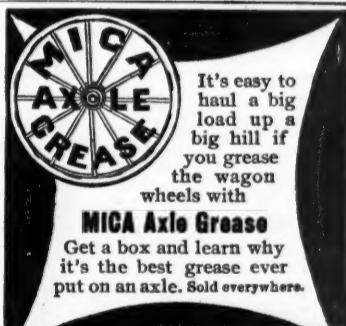
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This book is designed to meet the needs of the private home dairy, and cannot fail to be of great service, even to those who have had considerable experience. It is nicely bound in a waterproof cover, so that it can be used in the dairy room without damage, and it is printed on good paper. It will be sent free and prepaid to any one who will cut out and send us from the back of one of our butter salt bags (either the 14 lb., 28 lb., or 56 lb. size) the trade mark words:

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It is claimed that for years buggy manufacturers have secured exorbitant prices for their goods, but recently, through the combined assistance of the farmers of Iowa, Illinois and other states, SEARS, ROEBUCK & CO., of Chicago, have got the price of open buggies down to \$16.50; Top buggies, \$22.75; Top Surries, \$43.75 and upwards, and they are shipping them in immense numbers direct to farmers in every state. They send an immense Buggy Catalogue free, postpaid, to any one who asks for it. This certainly is a big victory for the farmer, but a severe blow to the carriage manufacturers and dealers. 20

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THE SITUATION IN CATTLE.

The situation in cattle is an important subject at present. In the middle states a good many cattle now on pasture were purchased as stockers at extremely high prices, and the outcome of the venture is one in which many farmers in beef producing states are interested. The situation at present is peculiar so far as values are concerned. While prime heavy cattle are not selling so well as in the spring months, common cattle, such as thin steers, oxen, cows and bulls, are firm and higher. This is regarded as an abnormal condition which will probably only last for a short time, ceasing with the causes which brought it about. The sudden demand for large amounts of canned meats by the government started heavy buying of what are known as canning cattle, forcing up the price on that grade, and the class above them, while the usual dullness which is looked for at this season in the cattle markets of the country affected the values of choice to extra steers, and fat heifers. As soon as these contracts are filled there will be a tendency in the classes of cattle used for this purpose to drop back to their normal values as determined by that of the choicer grades. But as the requirements of the government are sure to increase as the army and navy grow, it looks as if common cattle were to have an inning during the summer months, when usually they are more or less depressed. Of course they cannot be advanced beyond a certain point because the better class of cattle would become available if they did. In this connection we note that the government is said to have made contracts for 50,000 head of Texan cattle to be sent with the invading army to Cuba. These cattle will be good steers, not canning cattle, and to that extent will cut off the number usually sent to northern markets. With an army of 25,000 men these cattle will last a year, in conjunction with other meats.

But the army sent to Cuba and Porto Rico will probably be about three times that number, and those cattle would then last only four months. The cattle will probably be placed on transports, sent to Cuba, and then follow the army on its marches, being killed as required. This system keeps the meat from spoiling, and gives the soldiers less rations to carry, two very important considerations in campaigning. We look for the demands of the government to have a very important influence upon the market for cattle the coming six months, and that influence should be sufficient to prevent any depreciation in prices during the summer months.

The next point to consider is whether the demands of the government will be apt to cause an appreciation in prices. We are of the opinion that it will strengthen the market, and thus counteract any tendency toward a lower range of values, but that the market will not advance to any appreciable extent. We believe this because of the greater number of cattle now on pasture in the middle and some of the eastern states, and the extraordinary manner in which herds are being increased in the west and southwest. This is such an almighty big country, and its productive capacity, when pushed to its limits by good prices, is beyond the comprehension of ordinary authorities in statistics. We have seen this exemplified the past year in the Leiter wheat deal, when the crop of last season was shown to be so much greater than the highest estimates that all calculations were upset, and Mr. Leiter was forced to the wall. It will be so with cattle, sheep, hogs, or horses. Whenever high prices obtain, the supply will increase beyond all estimates. It will not be safe, therefore, to expect prices to reach a much higher range than at present.

As giving the opinions of those who have an opportunity to study this question near the center of production, we take some extracts from other publications. The first is from the Texas Live Stock Journal:

"The belief is general that fat cattle are as low as they will be for many months to come. If the war lasts for any length of time the demand for beef from the government will have a tendency to stiffen prices, while on the other hand should there be an early cessation of hostilities there will be a general loosening of the purse strings and a strong demand for cattle for the army of occupation and for the purpose of re-stocking Cuba. We do not look for any boom, but we do expect from now on a gradual hardening of cattle values. But few sales of range cattle are being made in Texas. However this does not indicate a slump in values for this class of

stock. On the contrary, owners of stock cattle are holding for about the same figures that prevailed early in the year, and have the greatest confidence in being able to secure their price in the not far distant future."

The following is taken from a review of the situation which recently appeared in the Live Stock Report: "During the next two months or so there is going to be but limited demand for cattle weighing over 1,400 pounds average, more especially as concerns weighty fed westerns or cattle of not strictly good quality. Supplies are doubtless going to be liberal, and with this advantage to the buyer it is quite likely present values will not be maintained. As the weather gets warmer discriminations will become severer, and in all cases where heavy beesves are ready to come we strongly urge shipping them at once, as it will be very unwise to carry them along into hot weather. Range cattle will not arrive very freely before the first of August, and until that time caution will have to be used in handling and shipping steers weighing over the above average. During the early part of the range season shippers and exporters handle but few western grassers, and there is then a good market for well-finished natives, but when, as at present, there is a good supply of fat medium weights as well as large numbers of heavy steers to select from, buyers have matters practically their own way. Numerous illustrations of the above condition of affairs may be seen in our list of cattle sales. Numbers of sales of 1,175 to 1,275-pound native and fed western steers will be seen at \$4.60 to \$4.80, with an instance of fat young 1,114-lb. Angus steers and heifers mixed at \$5.10, while on the other hand will be noticed sales of fat 1,566 to 1,587-pound westerns and natives at \$4.65 to \$4.75 per 100 pounds."

For the Michigan Farmer. HOW HOGS GROW.

In The Michigan Farmer of June 11th, under the heading of "Live Stock," C. E. Proper, of Saginaw Co., Mich., says that I once told of feeding corn to hogs, but did not say why they did not gain as rapidly the last part of the feeding as they did when I first began feeding them. He says "there must have been some reason and" he "would like to know what it was."

It would seem that if a hog consumed a certain quantity of corn one week, and put on a certain number of pounds, it would do exactly as well the next week on the same amount of feed with equally as good care. But such is not the case. From reading friend Proper's article I am led to believe that he has already noted the difference between the first and last stages of the fattening process. If he has not, he will be sure to do so in the future. Here lies the secret of success or failure in the hog business. To know when to feed hogs and when to sell is the most important question that the swine raiser has to decide. The amount of feed on hand, the condition of the animal and the outlook for an advance in price, must govern the day of the sale. But, as a rule, if one can manage to dispose of his fall pigs in January or June the price per pound is sure to be as good as it will be again for some time. This leads me to add that if spring pigs can be placed on the market during the month of August, before the rush from the western states, they will usually bring a good price.

Just why a hog won't put on as many pounds a week after it has been fed several weeks, as it does at first, is something about "hogology" that the writer has yet to learn. But I am of the opinion that when a hog, or any other animal, gets developed to a certain limit it is like getting one's growth, for when once an animal gets about so large, no matter how much feed it has thereafter, it seldom gets any larger.—Elias F. Brown.

THE BEST BREED.

The question is frequently asked at farmers' institutes and also at other times and places, as to which is the best all-around breed, and it has become common for men to answer that the best breed is the one that will give the best return for the food consumed. So common has this mode of answering become of late, that the answer is beginning to assume the character of a proverb. And yet it is a statement which is filled with the marrow of rank heresy, if taken as a full and complete answer to the question. It would be correct to answer that the best breed is the one that will return the largest amount of profit to the owner during a term of years.

When the question of "the best breed" is brought up for consideration, many distinct factors must of necessity receive attention, or erroneous conclusions will be reached. Such questions

as adaptation to environment in all its phases will have to be examined. Stamina, breeding qualities and the quality of the finished product must all come into the computation. In fact, in such an examination not a single characteristic which has any bearing upon capability which has been overlooked.

As to adaptation, one breed is not as good as another. Each breed is adapted to certain natural conditions of environment, and it will give more satisfactory returns when surrounded by environment that is peculiarly adapted to its needs than when not so surrounded. For instance, the Southdown sheep will handsomely reward its owner when pastured on rugged uplands where the heavy-bodied Lincoln would not fare so well. On the other hand, the Lincoln may give more satisfactory returns when fed in rich valleys. It is very evident then that the best breed in one locality will not prove the best in another of a different character, notwithstanding the good return which it may give for food consumed under normal conditions.

Stamina is also an important consideration. So important is it that on this question alone profit may hinge. One breed may give a better average return for food consumed when all the conditions are perfect, but yet it may be so lacking in stamina that in the end another breed not quite so easily kept but more vigorous may give a better return.

We know that conditions as to environment and care are seldom perfect.

It is essential that the average stockman shall keep animals possessed of that degree of stamina that will enable them to do well even though the conditions of food and keep are such as would not be considered fully suitable for animals of a more delicate organism. The Essex pig will probably feed easier than the large improved Yorkshire. Notice the word "probably." So far as is known to the writer this has not been demonstrated, but it is what we would naturally look for from the difference in form of the animals of the two breeds. But should the surmise be true, it does not follow that the Essex is the more profitable animal. From what we know of the relation of form to breeding qualities we would naturally expect that the Yorkshire would be the better breeders. And a careful computation extending over a number of years would assuredly result in favor of the superior breeding qualities of the Yorkshire. It would be found that in comparison with other breeds of swine kept on this continent, the Yorkshires would be entitled to a place in the front rank as breeders. Hence, even though it were true that they should consume more food than some other breeds, they might still be found more profitable owing to superior breeding qualities.

And the quality of the product is a factor which must not be overlooked. The relative values of a finished meat product are largely determined by the character of the market. The kind of bacon and ham, for instance, exactly suited to American markets may not be in highest demand in the markets of Great Britain. If so, there will in the two countries be some difference in relative price for the finished products even though these may be possessed of equal intrinsic merit. And if there is a difference in relative price, there will also be a difference in relative profit. We can readily imagine that Jersey cream will command a better price in the retail market of our cities than cream from some other breeds, because Jersey cream has become proverbial for its richness. And just in the same way we can easily understand why bacon from the Tamworth should command a better price in England than bacon from the small and easily fattened Small Yorkshire.

It is very evident, therefore, that the ability to give a good return for the food consumed is only one consideration when the question of relative profit in breeds comes up for consideration. It is, of course, an important consideration, but it is not everything. It would probably be putting it strongly to say that it is the most important consideration. Its relative importance has certainly been exaggerated in the minds of many breeders, and because of this, the long train of evils of which the stockmen of today complain must needs be borne until wiser systems of breeding and management prevail.

We have delicacy in some of the improved breeds. This would not exist had they been universally reared on proper principles. Where breeds are delicate man has made them so. Nature never makes such a mistake. They have been made delicate because man has been carrying too far the idea of the largest profit for the food consumed. Some of our breeds are also somewhat shy as breeders. This is not the work of man. Nature produces all or nearly all animals so that they will breed regularly when she cares for them. Man, by his improper modes of management, makes them shy breeders. If the Poland-

Chinas too frequently disappoint the owners thereof in the size and number of the litter which they produce, the Poland-Chinas are not to blame but the owners. They have been carrying to excess the one idea of the greatest return for the food consumed.

Far be it from me to say anything that would tend to hinder the development of good feeding qualities. The lack of these is a sore evil in the common stocks which abound in the land. The waste from the want of feeding qualities in many of the animals kept is a grievous waste. So grievous that it is keeping many a farmer poor who might otherwise be in circumstances of comfort. But false teaching will always in the end work harm, hence if the one idea of getting the greatest profit from the food fed comes to be the all-absorbing one with stockmen, they are sure to adopt methods which will lead to one or more of the evils named. If animals kept for making meat are to be possessed of the very highest all-around qualities, something must be sacrificed in the direction of the highest possible feeding qualities to secure and maintain the best breeding qualities and that vigor and stamina which are able to endure.—Thos. Shaw, University of Minnesota.

STOCK NOTES.

C. E. Pailthorp, of Mt. Morris, Mich., breeder of Berkshire hogs, says in a private note: "Trade in Berkshires good. I have just shipped a pair of pigs to C. H. Petty, of New Jersey."

The directors of the Chicago live stock exchange propose adopting a stringent rule in relation to cruelty to animals in its yards. Besides the suffering caused the animals, and the loss occurring from rough handling of stock, packers claim that the proportion of bruised hams and shoulders is steadily increasing.

L. N. Bonham, of Ohio, thinks the outlook for good hogs is better than for cattle or sheep. If it is, then the hog grower occupies a very strong position. Sheep are going to be strong because farmers are striving to increase their flocks. Hence ewe lambs and old ewes will be largely held over and bred. Of course the continuance of the war with Spain means a heavy demand for all classes of pork products—barreled pork, bacon and hams. The latter will not be issued as rations but sold to officers.

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POINTS IN SUMMER MANAGEMENT.

Shade, pure air, salt and water are the requisites for the comfort and thrift of the flock during the summer. To these must be added, in many instances, some parasiticides, both internal and external. The loss in growth from parasites, even where death does not result, is incalculable. Only in recent years have we been forced to a realization of the ravages the various parasites may work in the flocks. There is little doubt that the external parasitic troubles are worse since the very general introduction of the English sheep, and that generally the mutton breeds suffer more heavily from them than the Merinos.

But Merinos are not entirely exempt from their attacks. I have known well-cared-for flocks of Merinos to suffer heavy losses from them, but such instances are not general. It is comparatively easy to keep ticks from doing great damage. Dipping is the remedy. But a single dipping will not entirely free a flock. A few about the head will escape. Not all will leave the older sheep when sheared. I have found a few upon sheep the second and third days after shearing.

The internal parasites are still harder to exterminate. There is little doubt that old sheep pastures are infested, as are also nearly all old sheep, although they do not suffer from them as do young sheep. It now seems to me that the only certain protection for the lambs from internal parasites is to have them come in the fall after the ewes go to the stables for the winter, then wean them in the spring before the ewes go out to pasture and place the lambs upon pastures upon which sheep were not kept the previous season. I do not believe the lambs are born with parasites, as is believed by some, nor is there anything like general infection while the lambs remain upon dry feed.

Wherever the conditions are such as to make this plan possible I think that the flock might in the course of a few years be entirely freed. The next best protection is to place both ewes and lambs upon a new pasture. It is not too late yet where the flock has been kept upon very rank pasture. I do not know just how early in the season lambs become infested, but believe it depends more upon conditions of the pasture than upon advance of the season. I recently slaughtered and carefully examined a six-months' old lamb that was purposely kept with a flock of old sheep upon an infested field. It had no lung worms and only two of the stomach worms. I am very certain this slight invasion was from the pasture, as other lambs slaughtered before going upon the fields had none of the parasites. The lamb slaughtered had had no medicine, but had access to salt and ashes. This is a simple remedy and seems to hold in check the stomach worm. Salt and pine tar or salt and turpentine make a more effective preventive. They may be kept before the flock alternately with salt and copperas.

Doubtless pure water in constant supply will go far toward enabling the lambs to withstand the attacks of parasites but pure water will not insure immunity from them. Slaughter and examine one occasionally in order to learn the exact condition of the flock. I do not believe in dosing the animals until I know that they need it. Nor do I want to wait until they show the pale skin and bloodless eye.—H. P. Miller.

RESHAPING THE WESTERN SHEEP INDUSTRY.—No. 2.

In 1883 the freight on sheep from here to Chicago was \$45 per single deck car, and yardage 8c per head. Now the freight is \$48.75 per double deck car and yardage 5c per head. In 1883 the receipts of sheep in Chicago ran from 1,500 to 3,000 per day. Now they range from 20,000 to 30,000 per day.

Mutton now having become the desideratum, more attention is being paid to the carcass of the sheep, and much cross-breeding has been done in recent years. Shropshire, Cotswold and Hampshire Down bucks are freely used in crossing on the Merinos and smaller native breeds of the West. Their get is a very acceptable market sheep, being of better size and flesh than the fine wools. Upon this upbuilding and success of mutton growing here in the new West will be found below a few expressions of some of those who have taken conspicuous parts in it:

Peter Jansen, of Jansen, Neb., one of

the most extensive and successful western sheep men says: "I came here from Southern Russia in 1874, and commenced raising sheep for wool. As long as the best prairies were open this paid very well; but after settlers came in I gave up raising sheep and commenced feeding for market. In 1880 Nebraska did not feed over 100,000 sheep. For the feeding year of 1897-8 the state will feed 935,000. Sheep raisers on the western plains are breeding more for mutton than formerly, and many good feeders are being bought in New Mexico and Colorado. In fact I think they are better mutton sheep than those from Oregon, Utah and Idaho, which are larger but coarser. I find that sheep feeding pays if handled rightly, but it requires more care than cattle."

A. C. Norwood, Las Animas, Col.: The sheep business has prospered greatly here the past decade. In 1880 there were very few sheep in this part of Colorado. At that time sheep were bred for wool alone, feeding for mutton being unknown. It was commenced here about five years ago, and has grown from mere nothing to the leading industry in this part of the state. There were 50,000 sheep fed around here this season, mostly lambs. Everyone here is now breeding for mutton, it being much more profitable than wool growing. Good profits have been made in the mutton and lamb business here since 1892, and not a cent on wool during that time. By losing sight of wool and breeding for mutton, the sheep business here has been brought up from a losing one to the most profitable industry in the country, a change resulting from the free use of mutton rams on the native or fine wool ewes. The Shropshire, Hampshire Down and Cotswold bucks are now heading most flocks. Our best lambs are raised here on alfalfa and get to be large and heavy. But many are brought here from New Mexico; and they feed well but are lighter than the Colorado natives.

"Mutton growing is paying much better in this section now than beef, as the country is better adapted to sheep raising than cattle, the short grasses being just the thing for them, and they require, for topping, less corn. But the prime factor in the success of the sheep industry here has been alfalfa, the best of roughness, abundantly and cheaply raised."

While this change in the breeding of sheep has brought relief and success in certain quarters, the trans-Missouri country has suffered along with the entire union from adverse tariff legislation, and those states and territories that had the greatest number of sheep a decade ago, when wool was the first thought with the sheep man, have suffered noticeable reductions in their holdings, and while now disposed to build up their flocks again, have not had time to recover their entire losses.

Number of sheep in the states and territories west of Missouri river for a series of years, as reported by the Department of Agriculture at Washington:

ROCKY MOUNTAIN STATES.

	1880.	1890.	1895.	1898.
Colorado.	1,783,891	1,305,989	1,623,089	
Utah.	2,055,900	2,039,226	1,978,457	
Wyoming.	1,017,373	1,222,588	1,940,021	
Idaho.	487,357	919,865	1,651,343	
Montana.	1,989,845	2,808,717	2,247,641	
S. Dakota.	323,482	349,709		
N. Dakota.	367,171	352,668		
Total.	7,334,366	8,986,988	11,142,928	

MISSOURI RIVER STATES.

	1880.	1890.	1895.	1898.
Kansas.	371,900	438,133	374,888	236,650
Nebraska.	172,800	239,400	183,448	266,163

TOTAL.

Total.....	544,700	677,713	458,321	492,928
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SOUTHWESTERN STATES AND TERRITORIES.

	1880.	1890.	1895.	1898.
Arizona.	638,404	746,546	845,239	
N. Mex.	3,092,736	3,008,824	2,844,265	
Okl'ma.		22,778	25,536	
Texas.	5,148,400	4,752,640	3,738,117	2,649,914
Total.	5,148,400	8,543,780	7,516,265	6,364,954

The early tariff legislation against wool, in 1883, while having a depressing influence upon the sheep interest of the older wool-growing states, failed to affect it here in the new West and the Rocky Mountain country. But the avowed free trade policy of President Cleveland during his second administration, and the passage of the Wilson bill, caused a general reduction of flocks after 1893. From 1890 to 1895 there was a shrinkage in the sheep holdings in Kansas and Nebraska of 219,392, and in the four southwestern states and territories west of the Missouri, a loss for the same time of 1,027,515, all of which came out of Texas and New Mexico. Arizona and Oklahoma being new countries to the sheep men, made slight gains. Since 1895 Kansas and Nebraska, under the stimulus of the mutton trade, have increased their sheep holdings a little, and Arizona and Oklahoma under the same influence also gained in their sheep holdings, but Texas and New Mexico report fewer sheep again than in 1895.

though a recovery in New Mexico of 160,000 last year. Yet this entire section held, January 1, 1,151,311 less sheep than three years ago.

But in the Rocky Mountain country where the sheep interest is newer and more attention paid the mutton sheep, there has been a steady and marked increase in the sheep holdings. From 1890 to 1895 this section gained 1,652,623 and during the next two years, 2,155,940. Of the states in this group, the greatest increase appears in Wyoming, Idaho and Montana, and they are raising a good sheep, much larger than those countries farther south, and a good and juicy mutton carcass.

Wyoming, that in 1890 reported 1,017,375 sheep, now has 1,940,021, an increase of 922,648. Idaho in 1890 had but 487,357 sheep; now has 1,651,343, an increase of 1,163,986. Montana in 1890 had 1,989,845 sheep; now has 3,247,641, an increase of 1,257,796. North and South Dakota, that reported no sheep in 1890, now have 702,377. These countries, the natural habitat of sheep, and now happily freed from the Indian, and yet but partly stocked, will doubtless become before many years one of the greatest sources of the mutton supply in the Union.—Cuthbert Powell.

(To be continued.)

FLOCKS AND FLEECES.

It is a good time now to put in a sowing of rape. It will be ready for pasturing early in September, when the pastures are likely to be very bare as the result of the heat and drouth usually experienced in August.

The season for Colorado lambs is about over, and it has been a very successful one for feeders. Prices have averaged higher than last season, although a good many were marketed in April when values were low.

Sheepmen throughout the northwest report large crops of lambs, and their flocks in first-class shape. The wool clip is estimated at 25 percent increase over last year, and the number of muttons to be marketed will greatly exceed any former season.

As showing the difference in value of sheep at present as compared with two years ago, the Platte Valley Sheep Co., of Wyoming, has recently purchased 25,000 head of yearlings in Oregon at \$2.50 per head. In 1896 the highest price for such stock was \$1.15 per head. The prices represent sheared sheep in both cases.

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All communications relating to the organization of new clubs should be addressed to C. M. Pierce, Elvira, Mich.

THE SENATE VOTE ON THE EQUAL TAXATION MEASURE.

At the request of a score or more of correspondents we publish below the senate vote on the Atkinson Equal Taxation bill at the close of the special session of the legislature. We shall take occasion to comment upon this matter many times during the coming months. For the present issue, however, we simply place the voting record before our readers with the single unquestioned and unquestionable statement that every senator who voted "no" did so in deliberate disregard of the known wishes of ninety-nine percent of the farmers of Michigan. The vote was as follows:

Yeas—Barnard, Blakeslee, Bostwick, Coleman, Hadsall, Holmes, Hughes, Loomis, Moore, Mudge, Prescott, Robinson, Wagner, Warner.

Nays—Barnum, Campbell, Flood, Forsyth, Jibb, Latimer, Lawrence, Maitland, Mason, Meriman, Preston, Savidge, Teeple, Thompson, Westcott, Youmans.

WHAT ONE FARMERS' CLUB IS DOING.

Acting in accordance with a well-founded and well-grounded belief in the justice of their cause the Webster Farmers' Club of Oakland county, at its last regular meeting, adopted, without a dissenting vote, the following resolutions reported by their committee, Messrs. A. B. Bixby and T. J. Jones:

"Whereas certain state senators and representatives did work and vote against a proposition offered by the governor, which we believe was just and right, to tax railroads and corporations; and, whereas, they ignored requests and petitions of thousands of taxpayers; therefore,

"Resolved, that we, the members of the Webster Farmers' Club, will not aid or support with our voice or vote any of said members of the legislature who we know directly or indirectly worked or voted against said proposition, and we ask the co-operation of all Farmers' Clubs throughout the State to aid and support us in this great question of reform."

THE FARMERS' CLUBS AND THE NEXT LEGISLATURE.

PRES. E. J. COOK, OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

I am much pleased to see that the July-August Association topic deals with the formation of the next legislature. No question could have been suggested which, in my opinion, is more opportune or of more real practical importance to the farming classes than this.

The farmers' clubs can be a power in the elections of the future. The large number of members and the fact that the members are very largely men highly respected and of influence in their respective communities, gives us an opportunity to be an ultra factor in determining the complexion of the next legislature.

The farmers' clubs should be a power in the matters of State. Owing to a lack of mutual confidence and of ability to co-operate successfully the farmers have had no such representation in matters of legislation as our numbers or the importance of our calling would justify. Our interests have been looked after, and usually only after altogether too long a time, by lawyers, bankers, and others. I predict that within a very short time we shall demonstrate the fact in Michigan that we can and are going to occupy a place in legislation which is proportional to the importance of agriculture to the other industries of the State.

Very many of us believe that we are unjustly taxed. If this is so, and I believe beyond peradventure of a doubt, that it is so, let us demand equity at the hands of the next legislature. Let us nominate men who believe in justice to

all and favors to none; men who honestly wish to see the property of the rich and poor, of the corporation and the private citizen taxed upon an exactly equal basis, and who when they reach Lansing will have the courage of their convictions. With such men in nomination let us use every honest means to secure their election.

I am well aware that I have given no new thoughts or suggestions. My object in writing this is simply to emphasize the importance of the question and to urge its thorough and thoughtful consideration. Such consideration will render wise and concerted action possible.

THE FARMER'S WIFE IN POLITICS.

MRS. ELIZABETH CARPENTER.

(Paper read at the Blissfield Farmers' Club and published by request.)

The Earl of Salisbury, prime minister of England, took occasion in his address before an audience of some 6,000 people in Edinburgh recently to speak as follows:

"I earnestly hope the day is not far distant when women also will bear their share in voting for members in the political world, and in determining the policy of the country. I can conceive no argument by which they are excluded. It is obvious that they are abundantly as fit as many who now possess suffrage, by knowledge, by training and by character; and their influence is likely to weigh in a direction which, in an age so material as ours, is exceedingly valuable—namely, in the direction of morality and religion."

In these days of material progress it has come to be recognized as a fact that the brain and the hand should co-operate in the systematic advancement of agriculture, and upon this basis the farmers' club exists today. As each member learns and gains knowledge by reading, experience and observation he is willing to impart such knowledge of his success to others, and the result of this mutual imparting of information is great good to all concerned. There is nothing like interchange of ideas in friendly discussion to promote successful farming. At the meeting last month it was agreed that to keep a well ordered dooryard there must be co-operation on the part of all interested. That the good housewife must supplement the husband in efforts to succeed. The woman who makes home what it should be must be a companion for her husband, must be interested in what concerns and interests him. In the happiest and best regulated homes the wife and mother informs herself on the questions of the day and is able to discuss them intelligently with her family. The mother neglects her duty if she fails to inform herself on these important public questions. Let women become familiar with the affairs of our nation that they may be able to inculcate principles of truth and loyalty into the minds of the children and explain the foundations upon which our government rests. "The hand that rocks the cradle is the hand that rules the world." It is constantly asserted that the family is the foundation of the state. This is a travesty upon words. It should be so, but it is not so. The laws of the country are as much for the benefit of woman as man, hence she takes an interest in them as well as he. If it requires a mutual understanding between man and woman to have an ideal home and yard, why not the same ideal government in the State?

Woman shares with man in his education, his amusements, his work and religion and there is not the smallest doubt that their taking part in political action would tend to purify, elevate and improve the state. Woman will not come in contact with the mire of politics but will purify and lift it out of the mire. An educational instead of a sex political privilege is what she desires. Many do not understand the opportunities open to enfranchised woman. We sometimes hear it said it would not be womanly to go to the polls, but women can be assured that there will be no more loafers at the polls than at the church doors. "Place a womanly woman where you will and she is a womanly woman still." There is no more cause for husband and wife disagreeing on voting than father and son. It is nothing more nor less than one person's opinion and it is difficult to discern why the privilege of the ballot by one should be a different power than the vote of the other.

Man recognizes the influences for good that women exercise by word and act. The progress of society is along this line of development, making husband and wife more companionable in everything. The courts have established the fact that women are as truly citizens of the country as men. Because women cannot vote it does not follow that they cannot exert a potent influence in politics, and demand that men of clean lives be elected, men who are on the right side of moral

questions and on the moral side of all questions.

As politics bears directly on the comfort of the family the voting should be family affair. The tariff question for instance is a family concern and women cannot afford to be indifferent to politics when the tariff and other important questions are the issue. When women are politically associated with men they will be in position to demand those laws which bring about reform, and have a voice in placing the right men in power, the men who will carry out the wishes of their constituents.

Thinking women must have political opinions whether they have the privilege to express them or not, and the enfranchisement of women means added respect for womanhood. It means representation of the home in politics and will mean the solution of great questions which are everywhere pressing for solution, questions which will then be settled by the whole mass, instead of half of humanity.

REPORTS FROM LOCAL CLUBS.

ECKFORD FARMERS' CLUB.

June club met with Mr. and Mrs. J. A. Zimmerman. Opening paper by Floyd V. Frost, "Which pays best, to make butter or sell milk to the creamery?" The discussion was productive of many good points. A paper on "Corn raising by Silas Decker was discussed by H. S. Austin followed by J. H. Brown of The Michigan Farmer. Later Mr. Brown gave a very interesting talk on the Farmers' Club Association. Altogether the meeting was an entertaining one. July meeting with Mr. and Mrs. Thos. J. Shipp—Reporter, Calhoun Co.

HIGHLAND AND HARTLAND FARMERS' CLUB.

June meeting at the home of Mr. and Mrs. Chas Hodge, Sr., with a good attendance. Association question was warmly discussed. One member gave statistics showing that the consumption of malt liquors had increased 400 percent in the same period that the population had increased 100 percent and all in spite of the good work of the W. C. T. U. and other organizations. Another speaker thought if every man would vote for principle instead of party the liquor traffic would soon be under control. Others thought liquor laws as good as could be made if they were enforced. That it is difficult to get the majority of drinking men to testify to the truth.

The club will hold its annual picnic at Maxfield lake July 30th. Next regular meeting August 20th, with Mr. and Mrs. H. B. Thompson—Sylvia I. Gaunt, Cor. Sec., Oakland Co.

EAST BLACKMAN AND WEST LEONI FARMERS' CLUB.

May meeting with Mr. and Mrs. Ned Beebe. Sixty members present. As a result of the pure food discussion the following resolution was unanimously adopted: That this club is unanimously in favor of the vigorous prosecution of the violation of the pure food laws. Next club with Mr. and Mrs. Chias, Norton.—Mrs. Wm. Beebe, Reporter, Jackson Co.

DUNDEE FARMERS' CLUB.

May meeting with Mr. and Mrs. S. H. Reynolds. Question for discussion: "Why are some farmers more successful than others?" This was exhaustively handled and the following points brought out: Some are not as diligent; some are not adapted to the profession; some do not read enough agricultural papers; some are too afraid of making investments; some do not have helpful wives; some do not farm with their heads as well as their hands, etc., etc. Everybody enjoyed the occasion, as we do all the club meetings.—Mrs. D. Smith, Cor. Sec., Monroe Co.

MUSSEY FARMERS' CLUB.

The Union Club held an interesting meeting at the home of Recording Secretary A. Baldwin, June 2. "Growing and care of corn crop" the chief topic discussed, led by W. Beebe. He condemned the use of the hand planter in the hands of the average hired man. They go too fast and slight their work. Hasten the time of husking by setting up in small shocks, and secure fodder before winter sets in.

Viewing committee reported that everything was found favorable on the Matteson farm at the May meeting. In-

teresting papers were read by Miss Nora Smith on "Housecleaning" and Mrs. G. Stanlake on "The vegetable garden, its culture and management." Next meeting at the home of Walter Beebe, July 7. —Mrs. Rhoda Matteson, Reporter, St. Clair Co.

UTILE DULCI FARMERS' CLUB.

Mr. and Mrs. J. L. Blackwood entertained the club the evening of June 8th. Essays were presented by Mrs. F. L. Carpenter on "Independent thinking," and Mrs. Blackwood, "Which is preferable, city or country life?" Mrs. Blackwood preferred a small farm near town, as then the best advantages of both would be secured. Mr. James Clapp gave a talk on the present war. Next meeting with Mr. and Mrs. James Cork.—Cor. Sec., Oakland Co.

TROY FARMERS' CLUB.

May 7th the club met at the residence of Ed Niles. Quite a crowd congregated in spite of the busy time. The opening paper was on "Cuba" and was very good. Subject for the day "Corn culture." Harry Wattles said that many years ago one of the best farmers in Troy township started for the village nearby, leaving his hired man at home plowing straight, deep furrows for corn. On his way he passed the farm of farmer Slack who was plowing zig-zag shallow furrows. He watched the results and was surprised to find that farmer Slack's corn was the best. This satisfied him that shallow plowing was the best thing for corn. The finest musical program of any of the meetings was enjoyed by all present.—Reporter, Oakland Co.

LONG LAKE FARMERS' CLUB.

June meeting held with Mr. and Mrs. W. Sluyter. Mrs. R. H. Tenny read an excellent paper on "Poultry raising." Adam Andrews followed with an able paper on "The farmers' relation to the saloon." He insisted that the saloon should be wiped out of existence as a curse. This brought out a long discussion. The idea was expressed that the only way to stop it is to educate the people that it is a menace to their lives, and to the coming generation. Then it would be done away with. Others advocated high license. Still others thought that the manufacture of intoxicants should be prohibited. The next meeting will be at Lake Side park on July 2d. A picnic dinner will be served by those who attend.—S. A. Somers Cor. Sec., Genesee Co.

COE, CHIPPEWA AND LINCOLN FARMERS' CLUB.

Club met May 26th with Mr. and Mrs. John Ettinger. M. M. Kane, of Union Club, made some remarks in the interest of our yearly county club picnic, to be held not later than August 15th. C. W. Hudson and E. H. Estes were chosen delegates to meet other delegates to choose a location and to make necessary arrangements.

"Are we as a nation prosperous?" by J. Olmstead. The writer claimed we are not; that the rich were getting richer at the expense of the poor; that the government put a premium on intemperance and nearly all kinds of vice. B. E. Conkling said if we wished to reduce crime and intemperance we must christianize the people. Mrs. Estes thought it a libel on the government to charge that it put a premium on intemperance and crime; that we have the best government the sun ever shone on.

E. H. Estes gave some statistics on the corn crop of 1897 to show the rank Michigan holds as a corn-producing state. On acreage she stands 23d, with 993,880 acres; in yield 11th, or 31 5-10ths bushels per acre.

Club meets June 30, at the home of Jacob Gruber.—E. H. Estes, Cor. Sec., Isabella Co.

Fourth of July Excursions via Michigan Central.

One fare for the round trip is authorized between all stations on Michigan Central lines west of Detroit River. Tickets will be sold July 2, 3 and 4 good for return until July 5th, and to points in Canada from within radius of 200 miles on same dates.

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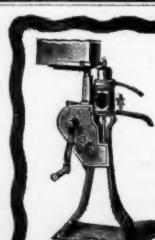
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BLOOD WILL TELL.

Recent events have seen two idols of the running turf dethroned. One was Ornament, the great son of imp. Order, who was beaten by Tillo in the Suburban, and the other was Plaudit, beaten by Pink Coat in the St. Louis Derby.

Ornament's defeat was the result of carrying a very heavy impost, and then being held at the post nearly a year before a start could be made. Ornament had 131 lbs. up, and Tillo had only 119. But some of the other horses carried a still lighter impost, and Tillo won a very good race. The field was a large one, and comprised the best horses in training in the East. The distance was 1½ miles and Tillo made it in 2:08 1-5. The fastest time ever made in the Suburban was in 1890, when the mighty Salvator went the route in 2:06 4-5, but he carried only 109 lbs.

The St. Louis Derby was won by Pink Coat, the favorite, Plaudit, being a fair second, but the third horse, Bannockburn, was five or six lengths away at the finish. The St. Louis Derby is a stake of \$12,000, for three-year-olds, distance 1½ miles. Five horses started and the 127 lbs. carried by Plaudit, as compared with the 107 lbs. that Pink Coat had up, was too much for the game horse.

The singular feature in these two races is that the winners, Pink Coat and Tillo, are both sired by Leonatus, the great son of Longfellow, whose death occurred a few weeks ago. Plaudit is by Himyar, also a great race horse, but one that did not like more than a mile. Sensation and his sire, Longfellow, were long-distance horses, and their descendants take after them.

HORSE GOSSIP.

Nancy Lee, dam of Nancy Hanks, 2:04, is dead as the result of an attack of colic.

Lieber Karl, who won several good races early in the season, and was thought to be the best colt in the west until beaten by Plaudit in the Kentucky Derby, has become so lame that he has been retired for the season.

At the Latonia meeting on Wednesday, of last week, Paul Kruger, got away from his jockey and ran four miles before he could be stopped. It is evident that horse can go a distance, and that he is as hard to manage as his namesake, the president of the Transvaal republic.

Gov. Brown, an American-bred trotter, sired by Badger Sprague, carried off first honors at a recent horse show in England, against the finest Hackneys that could be brought against him. This horse was bred in Missouri, and was a great prize-winner before he was exported. He must be a great show horse to win at an English show and under the eyes of a committee of Englishmen.

It is quite likely that there will be another call for troops, and if so a part of the levy will be cavalry. As good cavalry horses are getting scarce, it looks as if a further advance in price is pretty certain. In order to facilitate the purchase of horses the government has lowered the standard to which they must conform, so that now any sound horse between the ages of five and eight years, and standing from 15½ to 15½ hands in height, is regarded as suitable for cavalry use.

A writer in the London Farmer and Stock Breeder says of watering horses: "Water is, of course, just as necessary to a horse as food. It is very cruel to keep a horse thirsty, as thirst is far worse than hunger. A horse should be watered at least five or six times a day, but never directly after feeding—always before; and this is a very important thing to remember. If a horse swallows much water after eating, a great deal of the grain is washed out of the stomach into the intestines, and this may cause very serious trouble. Cold water must not be given to a horse that comes in hot from work. If the horse is very thirsty, give him a warm bran mash, or sprinkle some water on his hay. Never let him drink a mouthful or two out of a full pail and then take it away; this is a very cruel practice indeed. A horse should not be allowed to fill himself with water just before going out, as he certainly will not be fit for much if he does. Always let the water for your horses be clean; soft water is preferable to hard. If it can be managed it is the best plan to let the horse

have access to water at any time, so that he can drink when he likes; in this way a horse will never drink too much at a time. If this plan is followed, the waterer should be removed for half an hour after the horse has had his grain, and when he comes in from a journey; the water must also be frequently changed."

The Poultry Yard.

TURKEY RAISING.

Turkey raising is both a pleasant and profitable occupation. The little turkeys soon gain our affections. They dearly love to be petted. They soon become so tame they will follow you any place, and it is so much easier to keep them on the place and to gather them into their coops when there is a shower coming up. It is pleasant to think of the nice things we can buy in the fall when we sell them. It is also a nice thing to have them about Thanksgiving or Christmas time, or later on in the winter if there is a big wedding on hand.

I think we can make more raising turkeys than we can raising chickens to sell. We have good Plymouth Rocks and our chickens were nice last fall and at the price we had to sell them for it took seven to bring what one turkey brought. Our turkeys averaged 18 lbs. and we got 8 cents a pound. I wonder how many farmers' wives ever stop to think how much money they bring into the country every year by raising poultry. Last fall a man came around and bought a carload of poultry; he bought mostly old hens. He would allow you to put in one young rooster to every hen. Nearly all the women for two or three miles around sold a dozen or two chickens each. The day they were delivered there was over a thousand dollars paid out and there wasn't one-tenth of the poultry sold that was in that area at that time.

I have drifted from my subject. A great many can get the eggs to hatch all right but the little turkeys soon grow weak and die. I think where they make their mistake is by taking them off too soon. They do not want to be disturbed for three days after they begin to hatch. Throw an old blanket or piece of carpet over the nest to keep it dark; the little ones will stay under the hen and will not wander out of the nest and get chilled. You must not attempt to feed them while still in the nest. They will gain strength faster if perfectly quiet. When they are old enough to be taken from the nest, have a pen made 10 feet square and 18 inches high, with a good coop inside. It is a good plan to tie the hen by having a strong piece of muslin tied to one leg and fastened to the coop by driving a common fence staple in one side of it.

The best thing I have found to feed young turkeys is light bread soaked in sour milk. Give them only clabbered milk to drink till they are old enough to do for themselves. If any one raises a good many it pays to buy a sack of poor grade flour. Some may think that is to expensive but if you can save one turkey by buying that sack it will pay for a good sack of flour when you come to sell it, and have all the rest left for profit.

After they are a few days old feed them dry rolled oats once or twice a day. I would grease the hen's head when I first took her off. When the turkeys are a week old I would grease them often but not very much at a time, with fresh hard. After the turkeys can jump over their pen, unfasten the hen an hour or so each day. When they are feathered out pretty well let the hen run with them but see that they are in their coops every night. They are very little trouble after that.—A Farmer's Wife, Ainsworth, Ia.

SOME POULTRY NOTES.

INCUBATORS.

For several years I used a high-priced lamp incubator, with self-regulator and all the late improvements. This spring a neighbor has used a hot-water incubator, which only cost about \$3 for water tank, less than \$1 for lumber, and two days' work. His incubator holds 100 eggs and up to June 1 he has filled it three times this season. He tells me that he has hatched fully 85 percent of all fertile eggs. This is a better record than I have made in any year with my lamp incubator, with 20 times as much money invested in it.

But, you will say, the hot-water incubator requires more time each day to attend to it. My neighbor, every morning and night during cold weather and once a day during warm weather, draws off 10 to 20 quarts of water and replaces it with hot water. That is about all the time it takes. When running my lamp machine I must fill and trim the lamp

once a day, and then my experience is that the so-called self-regulators are not always to be depended upon, and I would not want to risk the eggs in my machine without going to it several times a day to watch the temperature, and this is not always convenient when one has much other work to do.

Again, I think there is less danger of spoiling my eggs by too high a temperature, in using the hot-water incubators. With the lamp incubator, the regulator may fail to do its work, and in an hour or two the temperature will rise to 110 to 115 degs., and if it remains there long the eggs are ruined, while there is but little danger of over-heating the eggs in the hot-water incubator. I believe that good work in hatching can be done with nearly all kinds of incubators in the hands of experienced persons, who can give a good part of their time to attending to them, and where one cannot conveniently keep hot water on hand for heating an incubator, or cannot well carry or lift so much water, the lamp machine makes lighter work and may save fuel in the stove; but for the novice in the use of incubators who wishes to invest but little money and can cheaply heat the water, I can recommend the hot-water incubator.

FIGHTING LICE.

When the hot weather begins in June the lice in the houses multiply very rapidly and hens badly infested with lice cannot do their best in producing eggs. My plan is to have the perches and nest boxes all movable, and to have two sets of each, which are alternatively used during the summer, changing them every two or three weeks and leaving those not in use out of doors, exposed to rain or sun. It has been my practice frequently during the summer to spray the inside of the houses and fixtures with lime water in which is put carbolic acid. If this is done every few days the lice will not long survive. The lime water will be more effective in destroying insects if it is made one-fourth part kerosene. To destroy the lice which infest the fowls is not so easy, as each one must be treated separately. I have tried sometimes to prevent the increase of lice by catching the fowls early in the spring, when on the perches at night, and applying kerosene to their bodies, and at the same time clipping a wing to keep them in the yards. Some of my neighbors have been successful in cleaning their houses of lice by burning sulphur in them, first driving out the fowls, but I have not found this necessary when I followed the plan as above. —W. H. Jenkins, Delaware Co., N. Y.

Dying in Shell—Natural or Artificial Incubation.—Many chicks have died in the shell this year. What is the cause of it? I have heard it said that heavy thunder will have an influence on eggs while hatching. Which way will an experienced person get the most live chicks—from hens or an incubator? What is a good hatch from eggs shipped some distance? Old Reader.—Too much heat in an incubator; hens too fat; hens leaving the nest till the eggs chill, are all causes of chicks dying in the shell. Breeders of experience will please answer these questions as to hatching.

Peternary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case fully; also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Lice.—A colt has had lice all spring and summer. Thought he would lose them after a run on grass. H. J., Ypsilanti, Mich.—Apply one part Zenooleum in 20 parts of water twice a week until he gets well.

Wart.—Horse has large wart on side of neck. When he rubs it bleeds very freely. W. K., Coldwater, Mich.—Remove wart with a knife. If it bleeds much burn it with a red hot iron. Apply tannic acid to wound a day.

Sweeny.—A young horse has sweeny. The flesh seems to have gone off his one shoulder. Can he be cured or shall I trade him off? W. C. W., Midland, Mich.—Apply light blister of caustic balsam once a week to part of shoulder that is wasted.

Ringworm.—Yearling colt has two sores on his hip. They are growing larger. No discharge but skin is rough and dry. I think he has mange.—A. N., Hillsdale, Mich.—Your colt has ringworm. Apply tincture iodine twice a day.

Weakness in Fore Legs.—Colt four weeks old is weak in fore fetlock joints. I put flannel bandages on him for two weeks. He got better but a swelling came on both fore legs below knee. H. S. C., La Fayette, Mich.—Apply equal parts extract of witch-hazel and water. You had better leave bandages off. They do no harm in hot weather.

Indigestion.—My cows wintered all right but as soon as they dropped their calves they commenced to run down. Lost appetite; they give very little milk. My neighbors

have similar cases. H. B., Breckenridge, Mich.—Your cows do not digest their feed. Give 1 oz. bicarbonate of soda, half an oz. ground ginger and 3 drams powdered wool charcoal three times a day to each cow. A change of feed will do good. If their bowels are constipated give epsom salts.

Malignant Sore.—Horse got cut eight months ago, making a wound on fore part of hock joint. It has been doctored since and is not healed. The wound is the size of a man's hand; center raw. I want to know if I can take it off. Horse is not lame. F. S., Blaine, Mich.—Burn fungus with a red hot iron every other day, and apply iodoform once a day. The center of fungus should be burned as low as edges of skin. The hot iron will stimulate a healthy action and wound will soon heal.

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THE MICHIGAN FARMER

—AND—
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CLEVELAND, SATURDAY, JULY 2, 1898.

This paper is entered at the Cleveland Postoffice as second class matter.

An exhibit at the Omaha Trans-Mississippi and International Exposition is a car-load of cancelled mortgages that have been paid off in the states west of the Mississippi during the past 18 months. That exhibit should stop the mouths of an army of calamity howlers.

The remarkable rapidity with which the \$200,000,000 is being subscribed for is proof of two things the great confidence felt by the people in the national government, and the abundance of money among the great mass of the people. The subscriptions will amount to five times the amount of the loan, and there naturally will be a great number disappointed.

It looks as if a national bankruptcy law would be passed by congress at this session. In the senate it has passed by a vote of 43 to 13. The adoption of such a measure is in the line of protecting the honest creditor and the honest debtor. As it is now, every state has a law peculiar to itself, and the result is seen in increased litigation, and the absorption of assets of bankrupt individuals and firms by the legal fraternity, who are the only ones profiting by the present condition of affair.

So enormous has been the crop of strawberries in this State that prices have got down below cost of production. In several markets they have retailed as low as 3 cents per quart, with 5 cents the best obtainable price. At Benton Harbor it is said that a number of plantations have been abandoned, the owners finding that at offered prices they could not afford to pay cost of picking, crates, packing, freights, commissions, etc., and have the fruit sell at present prices. It is a case of too much of a good thing.

The frequent and very heavy rains experienced within the past two weeks, if continued, are likely to affect the hay and wheat crops very injuriously. The wheat crop is a heavy one, and will be laid very easily, and at a time when it will be too late for it to recover. This will add very materially to the work of harvesting and may interfere seriously with the curing of the crop. Clover, which looks well, and gives promise of a heavy crop where not injured by insects, will suffer from too much rain. It is a difficult crop to cure when heavy, even in a dry time, but in a wet time its quality is sure to be affected. We have had all the rain wanted at present in most sections of the State, and too much in some places.

THE OTHER PLAN WOULD HAVE BEEN BETTER.

The method adopted by the government in putting out its war loan has been in accord with good business principles, and well calculated to make it popular with the people. The rate of interest is low—3 percent, just what the savings banks in this city are paying on deposits—and the work of selling the bonds is in the hands of the government officials, not in those of a syndicate of bankers or capitalists. The rule, both in the United States and foreign countries, has heretofore been for the bonds to be placed in the hands of some syndicate to be disposed of, and to pay a percentage for the work. It is only just and right to pay for their services; but as the government has all the necessary machinery to do this work, the employment of outside parties is wholly unnecessary. It is apparent that Mr. Gage and his assistants are doing the work as efficiently as any syndicate at a tithe of the expense, and doing away with a lot of red tape and mystery which were entirely useless, and only provocative of criticism and antagonism.

We think the putting out of this loan could have been accomplished still more easily, and in a manner which would have spread it into every state, county and hamlet in the union. The money received from these bonds is to be used in meeting the expenses of the war—arming, equipping, and transporting troops, purchasing supplies and paying the soldiers and sailors in the government's service. If instead of issuing a 3-percent bond the interest had been made 1 percent, as suggested in *The Farmer* when the prospects for war amounted nearly to a certainty, and these bonds, instead of being sold, paid out to the creditors of the government, whether contractors, soldiers, sailors, or anyone else in its employ, the loan would have been accomplished with still less trouble, and the people would have only been called upon to pay interest at the rate of 1 percent instead of 3 percent. In all other respects the bonds could have been prepared precisely as in the case of the present loan—even the present denominations of the bonds could have been followed. Of course it is a great triumph to see the government able to secure all the money it requires in a time of war, from its own people, at as low a rate of interest as 3 percent. It would have been a still greater triumph to see it do this at 1 percent. We believe the 1 percent bonds would have been added largely to the currency in circulation, with the interest clause making them more desirable than either the popular greenback, national bank bills, or silver certificates. We would like to see this plan tried.

REPENTANCE THAT CAME TOO LATE.

In last week's issue of the Cotton and Wool Reporter, published by Frank P. Bennett, vice-president of the National Wool Growers' Association, we find the following in its editorial columns:

"The feeling of irritation which has been increased among wool growers because of the importation of skirted wools, at a single rate of duty is now extending also to wool sorters and other mill operatives, as indicated by the statements of the Arlington mills, of Lawrence, Mass., reported on page 776 of this week's Reporter. This question of proportional duties upon skirted wools may develop into a great political issue, and cannot be met by any existing organization of manufacturers."

The report in question contains the following paragraph on the subject referred to:

"A very bitter feeling is entertained by some of the wool sorters towards the manufacturers. A few years ago they could average \$14 per week, with plenty of work; now they do nearly double the amount of work and the wages under the present rates are on an average about \$8 per week. This they claim is owing to the tariff that permits partially sorted wool to come into the country under the same rates as unsorted, conse-

quently the greater part of the wool imported is partially sorted by cheap foreign labor, forcing the American workman to accept the wages offered or go without work."

These extracts bring to mind the struggle in congress over the "skirting clause," and the peculiar position occupied at that time by the Cotton and Wool Reporter. Mr. Bennett then was vice-president of the National Wool Growers' Association, and also published the monthly bulletin of that association. The latter publication, intended for circulation among the wool growers, contained a series of very strong and able articles from Judge Lawrence, the president of the National Association, on the inherent injustice and dishonesty of the proposed "skirting" clause in the new schedule of wool duties; but the Reporter completely ignored that phase of the tariff discussion until the fight was over. It was probably necessary, from the peculiar position occupied by its editor, as officer of a wool growers' association and member of the national association of wool manufacturers, and running an "organ" for each, to suit both parties.

Now, however, the manufacturers' association has very quietly, but firmly, dumped Mr. Bennett outside of the breastworks of that organization, and he is no longer an admirer of either the organization or its members. For the first time in the history of the Reporter it has editorially attacked that "skirting" clause, and thinks now it may become "a great political issue." We called upon Mr. Bennett, while the fight over this "issue" was in progress, to define his position on the subject, knowing that he was posing as a friend of the wool growers; but he maintained a silence so deep it could be heard from Boston to Michigan. We called Judge Lawrence's attention to the fact that Mr. Bennett, as an official of the National Wool Growers' Association, was offsetting the work of the Judge by his peculiar methods. The fight is now over, the wool growers were beaten, Mr. Bennett was expelled from the National Wool Manufacturers' Association, and when it is too late to do any good he comes out boldly as a friend of the wool grower. Mr. Bennett is a very versatile man, but he is not always successful in making people believe in the genuineness of his professions of friendship.

So much for Mr. Bennett and his record. As to the allegations of the wool sorters, they are strictly correct and in accordance with absolute facts. The Farmer was the only agricultural paper in the country that called attention to the manifest wrong done to wool sorters of the country, as well as the farmers, by allowing "sorted" Australian wools to come in under the guise of "skirted" fleeces. It is an iniquity that should be righted by congress. The Secretary of the Treasury could do much toward righting this injustice by defining the difference between sorted and skirted fleeces, and ordering duties collected upon the former in accordance with the letter of the law. This question will surely be an "issue," and a burning one, as soon as the farmers and wool growers fully understand how they have been hoodwinked, and Mr. Gage could do much for himself and his party by an honest interpretation of the law and by its enforcement.

Will H. Allen, successor to the firm of Geo. S. Allen & Son, of Danby, Ionia Co., prominent breeders of improved live stock and identified closely with the introduction of Lincoln sheep into Michigan, died at his home on June 12th, at the early age of 36 years. Mr. Allen was a well known figure at live stock meetings, and had a large acquaintance among stock men. His death was unexpected, as he was in vigorous health until recently.

\$1.85 to Grand Rapids.

The Detroit & Milwaukee division of the Grand Trunk Railway will give another \$1.85 excursion to Grand Rapids on Sunday, July 3d, on account of the Turnfest at Grand Rapids. Trains leave Brush Street depot at 7 a. m.; Gratiot Ave., at 7:05; Milwaukee Jct., 7:30. Remember the low rate of \$1.85.

COST OF A UNIVERSITY EDUCATION.

The question has been so frequently asked, what does it cost a student per year to attend the Michigan University at Ann Arbor, that we reprint a statement compiled by officials from the expense account of several students enrolled in the literary department. The first statement gives the actual expenses of a young man in his sophomore year, omitting cost of clothing and transportation:

Matriculation fee	\$ 10.00
Annual fee	30.00
Student supplies, books and stationery	20.00
Board for 36 weeks at \$2.00 per week	72.00
Room rent at \$1.00 per week for 36 weeks	36.00
Lights	5.00
Subscriptions, entertainments, etc	9.00
Laundry and washing	13.00
Incidentals	12.00

\$207.00

The second statement gives the actual expenses of a young woman in her junior year:

Matriculation fee	\$ 10.00
Annual fee	30.00
Board at \$2.50 per week for 36 weeks	90.00
Room rent at \$1.50 per week for 36 weeks	54.00
Washing	13.50
Books	12.65
Stationery, stamps, etc	10.00
Entertainments, etc	12.13
Doctors and dentists	10.18
Incidentals	13.00

\$255.46

The items included, of course, are nearly entirely for actual necessities, and cannot therefore be cut down to any extent, but they include everything that the economical student really requires. The figures are very much lower than at any other university with anything like the standing of the big institution at Ann Arbor.

WHERE IT STRIKES FARMERS.

As the new revenue tax law went into operation July 1st, we append a list of commercial paper, etc., which will be subject to the tax, and which will be used to a greater or less extent by farmers and shippers of live stock:

All telegrams	.1c each
Checks or sight drafts	.2c each
Time drafts (inland)	.2c each \$100
Time drafts (foreign)	.4c each \$100
Promissory notes	.2c each \$100
Sales of grain, provisions, etc., at any board of trade or exchange	.1c each \$100
Sales of stock, bonds, etc	.2c each \$100 face value
Issue of stock, bonds, etc	.5c each \$100 face value
Bill of lading (inland)	.1c each
Bill of lading (foreign)	.10c each
Bond, security or indemnity	.50c each
Real estate deed	.50c each \$500 or fraction
Mortgages exceeding \$1,000	.25c each for each \$100 of excess or fraction
Transfer of Mortgage	.same as original
Insurance, life	.8c each \$100
Insurance, fire, marine, casualty	.1c for each \$1
Lease, one year or less	.25c each
Lease, one to three years	.50c each
Lease over three years	.10c each
General power of attorney	.25c
Proxy for voting stock	.10c
Protest of any check, draft, etc.	.25c
Warehouse receipts	.25c

Upon all the above papers a stamp must be attached at the time of signing or writing them, and the person who affixes the stamp must cancel the same by writing or stamping his initials and the date across the face of the stamp at the time he attaches it to the paper. It will be well for our readers to cut out this list and place it where it can be referred to at any time. It will save a great deal of trouble.

THE WHEAT CROP OF '97.

The Cincinnati Price Current reasons thus, in regard to the year's production, consumption and exports:

It is fair to recognize the position of wheat reserves in this country at the close of this month as considerably lower than a year ago. If it be assumed that the difference is approximately 25,000,000 bushels, and that the crop of 1897 was 550,000,000 it would appear that the year has furnished 575,000,000 bushels for consumption and exportation. The exports will show about 210,000,000, implying a remainder of 365,000,000 for domestic uses, of which about 55,000,000 represents seedling, leaving 310,000,000

for food and other purposes. If the rate of all consumption exclusive of seeding which was introduced several years ago by the Statistician of the Department of Agriculture, 4½ bushels per capita, be applied to the population, the result would reach 335,000,000 bushels, or 25,000,000 more than the quantity above indicated. Under ordinary conditions this would furnish ground for the view that the crop estimate is too low. But from the known displacement of wheat by corn and other products to a large extent the past year, it does not appear unreasonable to recognize 310,000,000 bushels as a fair approximation for wheat consumption, implying a curtailment of 7 percent. This supports 550,000,000 as a close estimate of the production in 1897.

BUSINESS CONDITIONS.

R. G. Dun & Co.'s weekly review of trade says: Very little new business has been created or prevented by the war. The Leiter wheat collapse has not checked shipments, and exports continue remarkably large. The world's markets are at our command and gold comes or does not come, just as we want it. The offering of national bonds brings out, at once, bids for more than three times the amount wanted, and three-fourths of the popular subscription is already taken up. Foreign demand for wheat is not yet satisfied and the price begins to rise again. Atlantic exports for the week, flour included, 3,246,200 bu., against 1,445,000 last year, and Pacific exports, 517,000 bu., against 57,080 last year, on legitimate demand. In 51 weeks of this crop year, 213,821,567 bu. of wheat and 207,137,483 bu. of corn have been sent abroad—far more than ever before for one year. Exports of corn for the week, 2,574,000 bu., against 1,660,922 last year, and exports of other grain were heavy. Wheat fell to 80c. for cash, but has advanced to 83c.

The industries maintain production surprisingly. Iron is dull in the East but at Pittsburg and the West the works are getting more business, and they are competing so that prices are slightly lower for bars, cut nails, etc. The enormous demand from agricultural regions for implements, fencing, cars, railway equipments, and all sorts of building is the noteworthy feature of this remarkable year.

Wool is stronger a shade, 100 quotations by Coates Bros. averaging 18.72 cents against 18.64 June 1, because of Western demands, which are relatively four cents above prices which manufacturers will pay, excepting to fill immediate orders. As the future of the trade is in doubt, though with more hopeful prospects, sales of wool have been in three weeks only 11,695,300 pounds at the three chief markets against 29,585,100 in the same weeks last year.

Failures for the week have been 285 in the United States against 216 last year, and 11 in Canada, against 24 last year.

NEWS SUMMARY.

General.

The Vermont soldiers are paid \$7 a month each by the state in addition to the amount they receive from the government.

Reports from Kentucky, where wheat harvest has been going on for a week or more, say that the crop will surpass any previous one in quantity and quality.

The June crop bulletin of Manitoba shows the wheat area to be 1,488,238 acres, an increase of about 200,000 acres over last year. The crops are in very promising condition.

After July 1 the freight rates by lake and rail, on flour and grain products, will be advanced to the basis of 15 cents from Lake Michigan ports and 17½ cents from Lake Superior ports.

A prominent Chicago wool commission merchant, who has been singularly fortunate in former years in forecasting the future of the market, expresses the opinion that wool will advance several cents a pound in the near future.

It is reported by Ambassador Hitchcock from St. Petersburg that the Russian government has made a contract with an American firm of between \$2,000,000 and \$3,000,000 for the equipment of the rolling stock of its railways with air brakes.

Our exports of corn for the fiscal year ending June 30, will considerably exceed 200 million bushels. In only three preceding years did it reach 100 millions; 1890 was the first, 103,438,700; in 1896 it was 101,100,375, and in 1897 it jumped up to 178,817,407.

Canada's foreign trade for 11 months ending June 1 is very encouraging. The figures show an excess in total trade over 1897, of \$43,535,000; in exports of \$26,876,000; in imports of \$16,659,000; and in revenue of \$1,852,578. The total trade amounted to \$262,576,722, of which \$143,671,962 were exports.

The centennial of Ohio Methodism was celebrated by that church generally throughout the state, last week. John Kobler was the first regularly appointed preacher in the "Northwest territory." He was appointed in 1798. The state was not admitted into the Union till November 30, 1802.

The senate committee on the Nicaragua canal will report favorably, showing that the project is practical and cost reasonable. It will take the position that our government cannot build it but can acquire a controlling interest. Prof. Haupt of the commission says it will cost between ninety and ninety-five million dollars.

In Michigan, June 22, the Democrats, Populists and Free Silver Republicans united on a common platform, endorsing the Chicago platform of 1896, and urging a vigorous prosecution of the war until "every righteous purpose" has been accomplished. Justin R. Whiting, a Democrat, was nominated

for governor, L. E. Lockwood, Democrat, for lieutenant governor, and the rest of the ticket divided up among Populists, Free Silver Republicans and Democrats.

The freight rate on corn from Chicago to Buffalo is now ¾ of a cent per bu., and ¾c. for oats. In 1866 it was about 12½c. on corn. The official report of the commerce of the great lakes for 1897 shows that last year a ton of freight was carried 12 miles for a cent. Referring to this, the Duluth correspondent of the New York Sun declares that this year a ton of freight can be hauled 22 miles on the Great Lakes for one cent. In support of this assertion, he makes this statement under date of the 8th inst.: "The rate for wheat for the 1000 miles from Duluth to Buffalo is 1½ cents a bushel, or 45 cents a ton, while iron ore is carried at 55 cents for a ton of 2,240 pounds. Coal is brought from the lower lakes to Duluth at 20 cents a ton for the 800 or 1,000 miles. This is almost 50 miles for every cent."

War Notes.

The Cubans have taken a hand in earnest against the Spaniards in the hills around Santiago. In one engagement, as reported they killed and wounded 75 of the enemy.

The Spanish commander at Santiago has notified his government that his supplies are running low, and that he expects no reinforcements, as other points will have enough to do to take care of themselves.

Gen. Miles is going to Cuba to direct movements. Troops now on the Island are to be under Gen. Shafter's command till the fall of Santiago. He is to be reinforced by 12,000 men at once, under command of Brigadier Gen. Guy V. Henry.

June 26 the American forces were within 4 miles of the Spanish army at Santiago and the pickets of both armies were within hailing distance at some points. The attack upon Santiago will begin as soon as sufficient supplies are landed and all necessary preparations made.

Latest reports represent Spain as in a state of ferment. Troubles of the gravest kind are brewing all over the provinces. Hunger is making itself felt at all points. Thousands are out of employment, and actual distress is evident.

Advices from Havana June 26, represent the city as gay, theaters crowded, etc., but food very high-priced. Beef and veal are 55c. a pound; lamb 90c., and pork \$1.15. The "centen" (Spanish gold coin) was quoted at \$5.30 (in gold), equivalent to \$9.25 in silver and \$33 in paper currency.

June 22, the battleship Texas, alone, silenced and destroyed the big Socapa battery near Matamoros, which Schley's whole fleet bombarded two or three times without success. During the bombardment the Texas was pierced by a 6½-inch shell that exploded, killing one of the crew and wounding 8 others.

The situation at Manilla is unchanged. The American relief troops had not arrived June 23 (latest report) but were hourly expected. The Germans have five war vessels in the harbor. The insurgents have 5,000 Spanish prisoners. The Germans are encouraging the Spaniards, or the city would have been surrendered some time ago.

The Spanish Cadiz fleet has left that harbor and is said to be headed for Manilla, through the Mediterranean. If it passes through the Suez canal, our government has decided to send a fleet over to Spain and bombard the home defenses. The movement of the Cadiz fleet is looked upon as a blind, and it is thought that it will return to some Spanish port.

The news from Santiago created a panic in Madrid June 23. The queen burst into tears when she heard Cervera's report of the desperate situation. Stocks tumbled and gold went up rapidly. The royal decree suspending parliament was read June 24, and the chamber adjourned without the usual cheers for the throne. Military precautions against uprisings have been increased.

A dispatch from Alexandria, Egypt, June 26, says that Admiral Camara's squadron from Cadiz arrived at Port Said (the Mediterranean entrance to Suez canal) and was in the harbor awaiting orders. It consists of the battleship Pelayo, the ironclad Emperador Carlos Quintas, two armored cruisers, three torpedo boats, and five transports carrying 4,000 troops. The ships are represented as being in bad condition.

General Blanco refuses to exchange Hobson and his men because they have seen so much of the defenses at Santiago that the information would be valuable to the Americans. The United States government has notified Admiral Cervera and Gen. Linares at Santiago that they will be held personally responsible for the safety of Hobson and his companions. Admiral Sampson telegraphed June 28, that Hobon and his men were confined in Santiago, 4 miles from Morro Castle.

The navy department announced, on Monday last, that Commodore Watson would once organize a flying squadron of six warships and cruisers and make a raid on the coast of Spain. This will be done to counteract the movement of Admiral Camara's squadron, enroute for Manilla. Watson's squadron will consist of the protected cruiser Newark as flagship, first-class battleships Iowa and Oregon, converted cruisers Battleship, Yankee and Dixie, and the colliers, Scandia, Averanda and Alexander. The expedition cannot get ready before July 4.

There are 24 chaplains in the navy now, and 34 post and 3 regimental chaplains in the regular army. The post chaplain ranks as captain in the army, and his pay for the first five years of his service is \$1,500 a year, and this is increased for every five years' additional service. A chaplain in the navy receives \$2,500 a year when on sea duty and \$2,000 a year on shore duty for the first five years, and after that he receives \$2,800 for sea duty and \$2,300 for shore duty. The chaplains must be men of good standing in the church, but are free to use any service they please.

Later reports show that Roosevelt's rough riders were led into a trap by the Spaniards at La Quasina. A perfect ambuscade was prepared and Roosevelt and his men walked right into it. They held their ground for an hour and a half, under a storm of bullets, and then charged into the bushes and drove the enemy out. It is now known that 16 Americans were killed and 60 wounded or reported missing; 37 dead bodies of Spaniards were found and many others are doubtless lying in the thickets. Gen. Wheeler, in his official report, places the killed on the American side at 23 and the wounded between 70 and 80. Sergeant Hamilton Fish of New York was the first man killed.

The army under Gen. Shafter arrived off Santiago June 20, at noon, and the whole force, 16,000 strong, was landed at Baiquiri and other points west of Santiago. The fleet under Sampson bombarded Cabanas during the landing of the troops, to divert attention. Cubans have been harassing the Spaniards in the hills north of the coast. Our forces upon landing, immediately began the march toward Santiago. In a battle at La Quasina, near Savilla, June 25, sixteen of our men were killed and about 50 wounded. Two thousand Spaniards were driven from the field by 1,000 of our regular troops and "rough riders." The enemy left twelve dead on the field, but their loss must have been much heavier. Our troops, June 25, were within 7 miles of Morro Castle. Garcia's insurgent force, 4,000 strong, is to be taken to Baiquiri on transports, to join our troops. Juragua, a Cuban town near Santiago, was abandoned by the Spanish, who set fire to it before they left. It was occupied by our troops at once. It was reported that Gen. Pando, with 10,000 men, was marching to the aid of Santiago. The crews of the Spanish ships have joined the land forces, and the guns of the war vessels have been landed and fixed to aid in defense against the American attack.

Shiawassee Co., Mich., June 25.—The weather continues to be good and crops in a growing condition. As yet nothing is particularly suffering for the want of rain, but if this kind of weather should continue unbroken for another week, which the indications are at present, crops will begin to show the effects of no rain. Haying is now fairly under way and progressing well. I do not think that as a rule the crop is going to yield quite as much as was expected. One or two fields did not yield the amount of hay that I expected they would. On low lands hay is very good to excellent, but on the higher fields it is rather short and not very thick. Corn is coming on very well. Oats are doing well although a little rain would not be an injury. Wheat still gives indication of a good yield. It was thought a spell ago that the frequent showers, followed closely by the sun, would rust the wheat, but I judge now that there is no particular danger in that direction. Until up to this month I think that the summer fallow wheat has looked the best, but now they are very close in appearance. For the most part wool has been sold. I think the best price that has come to my notice was 26 cents for medium, unwashed. The majority has been sold for about 20 cents per pound. Farmers in this vicinity have been having considerable trouble with dogs getting into the sheep. Fruit as a rule is doing well. Early peas are ready for use. Lowland pasture is holding out very well, but that on the highlands needs rain very much.—C. P.

Legal Department.

CONDUCTED BY EARL D. BABST,
56 Moffat Building, Detroit.

CROPPING AGREEMENTS.

For several years the editor of this department has invited suggestions on the subject of cropping agreements, and is enabled to print below a form of such agreement, which is contributed by a subscriber who is a member of the legal fraternity. In the interests of all our readers we invite their individual opinions and experiences as to the fairness of the provisions therein contained. If you have not the time to give to this matter at present, cut out this article and write us at leisure, for we wish to test this form in the light of your experience, amending it and changing it wherever necessary. Let us hear from you.

This agreement, Made....., between.....
....., first party and.....
....., second party concerning.....
....., Section....., Township.....
County, Michigan.

Second party agrees to work said premises for first party, in due season and best farmer-like manner from until 189....., furnishing all tools, implements, vehicles, teams and help, and..... seed therefor; to cut in due season all noxious weeds growing thereon..... to pay all taxes..... before December 30 of each year that may be assessed against said premises; and to do all road work; to leave all mature now or that may be on said premises and properly spread same as and when directed by first party, to feed out all straw and coarse feed upon the premises, except when otherwise directed by first party, or leave same at expiration hereof; to pasture only..... acres and no new seeding nor meadow; to keep said premises in repair and in as good condition as at this date, reasonable wear and destruction by the elements excepted; to cut, dig, harvest, husk and thresh (.....) and properly store and carefully preserve in buildings, cellars, or pit, and stack near barn, all products of said farm, and to place in merchantable condition and deliver same at such time and place as first party may elect, not farther from the farm than....., Mich., to give first party..... days notice

of time and place of threshing; to not transfer any of his rights under this agreement without written consent of first party; to permit no waste or destruction to any portion of said premises; to remove no structures or fixtures placed thereon during the term of this employment; to distribute upon said premises, as and when directed by first party, materials for construction or improvement of buildings, fences or other fixtures thereon; to clean and make smooth the fence row and construct in thorough manner not less than..... rods of fence each year during the term hereof, from materials furnished by first party; to thoroughly summer-fallow and..... sow to grain as directed by first party and seed down with grass seed furnished by party, acres of said land each year and the grain sown on summer-fallow the last year this agreement is in force, second party shall, at option of first party, either harvest and thresh as other grain herein mentioned, or receive reasonable compensation for grain sown and labor necessarily done in putting in same; to keep off all stock except such as belongs on the premises; to keep no more stock or poultry thereon than are actually necessary to work the farm properly and provide the family of second party with butter, milk, eggs and meat for family use while there, and if any such stock be kept any of the time on feed on the premises not wholly the property of second party, he shall properly feed, water and care for..... an equal amount thereon for first party, eight sheep in this matter, being considered equal to one cow or horse.

If the second party shall, from sickness or other cause, fail to perform the labor herein agreed, at time or in manner specified, first party may procure same to be done and pay therefor a reasonable compensation, and if first party shall fail to pay said taxes or do or commute for road-work, or fail to destroy any noxious weeds whereby said premises shall be charged, or preliminary action taken to charge same, first party is authorized to pay such taxes or charges and the amount so paid for labor, taxes and charges, together with expense resulting from any failure, default or malfeasance by second party, shall be deducted from the compensation hereby agreed upon to pass from first to second party.

To insure proper rotation of crops and prevent impoverishment of soil, first party reserves the right to dictate kind of crops to be raised on the different portions of said premises, and it is particularly agreed that no seed shall be furnished by either party here-to, or planted, except such as is clean and free from all other seed, and that each kind of grain, vegetable and fruit shall be kept separate at all times.

As compensation in full for performance by second party of the agreements herein on his part, first party agrees to pay second party..... of all crops excepting..... and..... of all fruit and..... grown during the term hereof on said premises, or a like proportion of the net cash proceeds thereof.

First party agrees to give second party possession of the buildings on the premises..... and that he shall, during the term of this employment, excepting in case of default or breach, have undivided possession thereof, and second party shall be permitted to cut from such timber as is not valuable for other purposes, only down timber to be taken therefor, all brush to be snugly piled.

Provided that if default shall be made in any of the agreements herein made by second party then it shall be lawful for first party, or assigns to at once repossess the buildings on said premises, and second party and every other person to remove.....

Should first party sell or contract to sell said premises or any part thereof at any time, second party agrees to vacate said buildings on..... days notice, written or oral. After vacating the premises because of sale or for any cause, the compensation due second party for seed sown and work done, shall be agreed upon by the parties hereto, and if they be unable to agree upon an amount, same shall be determined by arbitration, each party to choose an arbitrator; if those so chosen be unable to agree upon an amount, they shall agree upon a third arbitrator who shall decide the matters in difference. The parties hereby agree to abide by the decision of said arbitrators and hereby waive the right to resort to any court of law concerning compensation until the amount of same has been determined by said arbitrators.

All receipts and bills for taxes paid or worked, or for threshing or authorized expenditure made by second party shall, on request, be exhibited to first party.

Any amendment hereto not in writing and signed by the parties shall be void.

..... (L. S.)
In presence of..... (L. S.)
..... (L. S.)

Business Bits.

Mr. Geo. Granger, of Hornellsville, N. Y., says that Gombault's Balsam does not take off any banch from a horse, it is because it is not used properly. He has cured very bad spavins with it.—The Rural New Yorker, June 25, 1898.

Grand Trunk Railway 4th of July Excursions.

The Grand Trunk Railway is making one fare for the round trip for the 4th of July, to all points west of the Detroit and St. Clair Rivers, tickets being sold on July 2d, 3d and 4th, valid to return up to and including the 5th. Tickets are also being sold at Detroit and Port Huron to Canadian points within a distance of 200 miles at the single fare for the round trip.

Michigan Agricultural College. PRES J. L. SNYDER
Agricultural College, Mich.

The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD,
Flint, Mich.

We should be pleased to have any of our readers who take an interest in household topics, send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters for The Household to Mrs. Ella E. Rockwood, Flint, Mich.

FREEDOM'S DAY. (July 4th.)

BY T. C. HARBAUGH

Tis freedom's own immortal day,
By all her children blest
From Maine's rough headlands far away
To the prairies of the west;
Where'er our starry banner flies
With beauty fold on fold,
Is told beneath the azure skies
The tale that ne'er grows old.
The glorious deeds of Lexington
Still in their luster shine,
And fame doth crown the sword and gun
That fought at Brandywine;
From loved and haunted Valley Forge
True heroism comes,
And in the grim and icy gorge
Is heard the sound of drums.
Again the Continentals march
Down the wooded glen.
And there beneath the starlight arch
Ride Marion and his men;
The bellman, old, expectant stands,
A "rebel" to his king;
The bell-rope in his eager hands,
He waits prepared to ring.

Aye, back from years forever gone
These scenes and sounds still come,
And freedom's fair, immortal dawn
Is wedded to the drum;
The hero chieftain, Washington,
By honor guarded sleeps
Where southward far toward seas of sun
The broad Potomac sweeps.
Ring! every bell throughout the land,
Let loyal hearts be gay;
Beneath one flag we proudly stand,
For this is Freedom's Day;
Let anthems rise from coast to coast
And echo o'er the sea;
Be this our nation's proudest boast:
"Our land's forever free!"

HOME CHATS WITH FARMERS' WIVES.

THE STARS AND STRIPES.

Not for many years has our national banner been so extensively and so enthusiastically displayed as at the present time. We see it waving proudly wherever we go. Not alone in the city, where each seems striving to outdo the other in a display of patriotism (and even the churches are flying the stars and stripes) but in the country also. Of course the schoolhouses have been displaying the national colors for some time, and I am sorry for pupils who may be so unfortunate as to live in a pinstripe so unpatriotic as to be without a flag. Now very many farm houses have the bonny red, white and blue flying gaily over the front door or in the yard. We see it everywhere in neckties, badges, belts. Rare indeed are the young men and women who cannot and do not show their patriotism in some manner about the clothing these days, and one patriotic family of children in this neighborhood have gone so far as to name the last new batch of kittens after the different American admirals.

And what heart can be so cold, so unpatriotic as to fail to respond to the enthusiasm around us! It fills the very air! We stand today a reunited country. No North, no South, no East, no West. Party bitterness is forgotten, old scores are laid to one side the moment our country's honor is in danger. The present war will be the means of removing the last trace of unfriendliness between those who took opposite sides in the great contest of '61. All honor to the South and its heroes! Today they are fighting as bravely and as loyally as the veriest Yankee of all Yankeedom for the stars and stripes. We always knew they were valiant men and true, and we are proud to call them our countrymen.

There are many homes today where the stalwart son or the brave father is absent. The call to arms met with quick and willing response. Sad hearts linger and fond thoughts cherish the departed ones while they roam in foreign lands or upon the treacherous deep. They have gone to face dangers wherever they may be; and wives and mothers are living in suspense from day to day, eagerly watching for tidings of their dear ones.

War is always deplorable. It inevitably carries sorrow and suffering in its wake. Yet ours is a righteous war, and entered upon in the cause of humanity. Let us remember this, and also remember that though many who go out from our midst will never return, yet their's is the death of heroes. Their country delights to do them honor. Their names will live in history and their brave

deeds be enshrined in the hearts of their loving countrymen.

I was reading something the other day which started a new train of thought. It was in regard to a class of men to whom few ever give a thought as participants in the great struggle which is now in progress between our country and Spain, and yet their work is second to none in its importance, for without their assistance all the plans of Dewey, Sampson, of Schley would be futile. The men who live in the bowels of the ship, who spend their lives in doing nothing more valorous than shoveling coal into the great furnaces, are doing just as important service for their country as the commander upon the conning tower. Nobody thinks of them! The gunners, the crew of men in blue jackets who take part in the encounter, these we give credit for their bravery in facing the foe, but is it not as brave to stand at their posts and shovel the coal? They have no chance at all for their lives should the vessel be wrecked. They have no knowledge of how the battle is going, all that it is their business to do is to keep the machinery going, the wheel turning. While we are cheering the brave commander and his band of courageous men let us not forget those who are doing their duty just as bravely although where nobody sees them, those who are helping just as much as anybody to bring about the freedom of Cuba.

Now just a word more. This is the time to encourage patriotic sentiments in our children. Do nothing to dampen their ardor, rather encourage it. We want a nation of patriots, and it looks as though we have got it. Every child should be early filled with love for his country and its flag. Let them talk, and shout and sing patriotic songs to their hearts' content. Can't you remember how you used to sing "In the prison cell I sit," and "Johnny comes marching home," 35 years ago? Teach "The Star Spangled Banner" to your children as soon as they are old enough to learn the first verse. Teach them to sing "America" with a will. Children love to sing and right now is a good time to let them do it. Every child 10 years old ought to know our popular patriotic songs well enough to sing them off-hand upon any occasion.

HINTS FOR THE HOUSEWIFE.

Keep tea in a well-covered canister. Use lemon juice and salt to remove iron rust and mildew on white goods.

After blood stains have been well saturated in kerosene, wash in cold water.

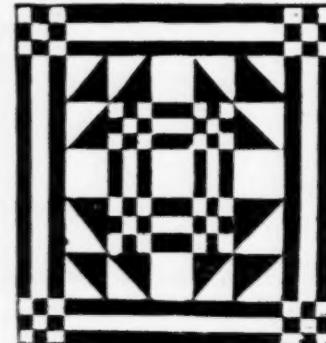
A wide and shallow teakettle is a good thing to have in the kitchen. It boils water in a hurry.

Put a teaspoonful of powdered borax in your cold starch; it gives extra stiffness to the linen.

Vinegar water cleans and brightens gilt frames. Use one-fourth vinegar to three-fourths water, and apply with a brush.

If the feet are tender or painful after long standing or walking, great relief can be had by bathing them in salt and water.—Mrs. A. C. E.

NEW DESIGNS IN PATCHWORK.

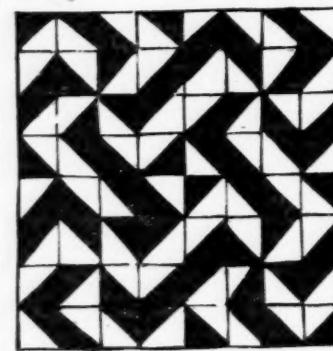


THE BANNER.

This design is very effective when made in the national colors—red, white, and blue. All the light should be of light cloth, the small squares in the corners of blue and white, the long strips of red and white, and the dark half-squares of either red or blue, as preferred. The pattern requires 32 small blue and 40 small white blocks each $1\frac{1}{2}$ inches square; 8 long red and 4 long white strips $1\frac{1}{2}$ by $1\frac{1}{2}$ inches; 8 short red and 4 short white strips each $3\frac{1}{2}$ by $1\frac{1}{2}$ inches; 5 white blocks $3\frac{1}{2}$ inches square; 12 dark and 12 light half-squares each $3\frac{1}{2}$ inches on straight sides.

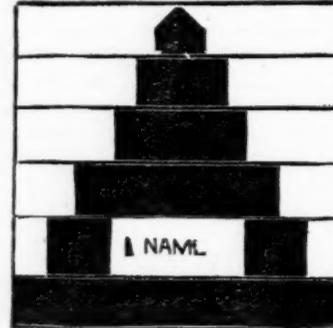
Sew together as illustrated. Allowance is made for $\frac{1}{4}$ -inch seams. These dimensions will make a block 21 inches

square. The blocks may be set together with large white blocks the same size, or the border shown in illustration used on every alternate block, which would be 15 inches square without the border, sewing them together without other "setting."



THE ELECTRIC.

This pattern develops beautifully in red and white or yellow and white, thus carrying out the idea of the electric "crinkles." The entire arrangement throughout the whole quilt is of half-squares in both light and dark, of uniform size. By following the illustration closely one need have but little difficulty in copying the pattern, although it looks such a puzzle at first sight. Blocks $3\frac{1}{2}$ inches square cut into half-squares would be a pretty sight and will make a block like the illustration 24 inches square. Make all the blocks exactly alike and sew them together without anything between to break the "crinkles," which should run riot throughout the entire quilt.



THE MONUMENT.

Is just the thing for societies that want a design for an autograph quilt. Although the name and design may appear a little bit gruesome at first, one has no idea how pretty this quilt will be until all the blocks are made and sewed together forming first a dark and then a light monument through the whole quilt. The lower dark strip should be about 18 inches by 3; and all the strips are of the same width but of shorter lengths as the approach is made to the top. The extreme point on the top is appliquéd onto the last white strip. These blocks are half a yard square when finished.—Beth Crane.

AUNTIE'S WAY.

No one who does not possess such a treasure can know what it is to have a middle-aged auntie to visit one occasionally. To be sure "mother's way" is always the best to the young housekeeper, and yet one occasionally sighs for something new, a little departure from the usual way of doing things.

Such an auntie visited me recently, and hearing me lament the ruin of some savory berry pies from "running over," she said, "Why not try my way, rather than the old unsatisfactory methods of wetting the crusts, tying with cloths, etc.? In making pies of any small fruit, such as canned berries, cherries, etc., I always add the flour (about a dessert-spoonful to a pie) the sugar, spices and

a bit of butter, to the fruit and thoroughly cook before putting into crusts. Then when the crusts are baked the pie is well done, and there has been no leakage to ruin at once the pie and the temper of the cook."

Another time, under the stress of company to tea, I mourned that I was unable to serve some dainty cake with the ice cream and strawberries. "Angel food" was out of the question, as I had only a few eggs in the house and no time to send out for more and make the cake in time for tea. Said auntie, with a kindly look over her spectacles rims "Don't you think angel food a little expensive for people in humble circumstances, especially when you consider the certainty of indigestion following in its wake?" Hope sprang to life at her tone "Well?" I questioned breathlessly. "I think it will be 'well' if you try my hot water cake," she answered, and at her dictation this is the way I made it:

Hot Water Cake.—Two eggs, 1 cup sugar, 1 cup flour, 2 teaspoons baking powder, $\frac{1}{2}$ cup boiling water. Flavor to taste. Beat eggs and sugar together until very light. Sift baking powder in flour and stir in, adding the water last.

"Now don't you want a nice frosting for the top?" she asked. "Oh, but it takes so long to beat the eggs, and then I am never certain of results." "Then don't use eggs; they are not necessary." And at my look of doubtful surprise she laughed merrily, and taking the case in her own hands, likewise some confectioner's sugar and a little rich milk, she soon iced the cake so that it was a thing of beauty. As for the quality, it was quite as delicious and much more digestible than angel food.

"Now if you had a nice beef loaf for tea," she said as I set the cake away to cool. "But they are dry and insipid," I demurred. "Yes, some are," she answered thoughtfully; but when we had tasted hers, made after the following recipe, we agreed that we had heretofore misjudged that dainty.

Beef or Veal Loaf.—1 lb. chopped meat, 8 crackers, rolled fine, $\frac{1}{2}$ cup sweet milk, butter size of a walnut; salt and pepper to taste; 2 eggs. Bake slowly one hour.

Then this delightful auntie gave me some hints about fruit canning, etc., which I am going to follow this fall, and I believe I will be well repaid if results are as satisfactory as in her case.

"Why not peel your plums?" she asked when I complained of the tart and acidity of the fruit put up last year. "Scalded like tomatoes, they will peel equally well, and will well repay you for your trouble if you find the toughness of the skins objectionable. Treated in this way and with plenty of sugar, the sourest plums will be delightful," and I believe they would.

And later when I was looking forward with dread to the time for putting up catsup and chili sauce, she said: "I have always wondered why housekeepers punish themselves over a hot stove in summer to put up the winter's supply of catsup and chili sauce, etc. If they would can the tomatoes they could make their sauces at their leisure and in comfort when needed in the winter. The fruit will keep as well as anything else, if well cooked and kept in a dark, cool place."—Maude Estelle Smith, Oakland Co., Mich.

Layer Cake.—Break 2 eggs in a teacup and fill with sweet milk. Break two more eggs in same cup, fill again with milk. One and one-half cups granulated sugar, 8 tablespoons of butter just warmed, 3 teaspoonsfuls of baking powder in 4 cups of sifted flour. Put all together and beat well with a knife.—"Lenawee Lily."

Mr. Wabash.—Are you fond of repartee, Miss Olive?

Miss Olive, of St. Louis—I don't believe I ever drank any of it. We always use Oolong.—Chicago News.

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The Markets.

WHEAT.

The week under review closes with the market showing more strength than at time of our last report. The change in tone comes from several causes, but principally because of reports of damage to crops from recent rains. The weather conditions at present prevailing favor attacks of rust and smut, and until the crop is harvested it will not be safe to count upon the quality or even the yield of the grain. Evidently dealers are quite nervous over the outlook, and it would not take much to start values upwards.

The following table exhibits the daily closing sales of spot wheat in this market from June 10 to June 29 inclusive:

	No. 1 White.	No. 2 Red.	No. 3 Red.
June 10.....	103	106	101
" 11.....	92	95	92
" 12.....	93	95	92
" 13.....	91	95	91
" 14.....	93	95	92
" 15.....	90	90	88
" 16.....	88	88	80
" 17.....	81	80	77
" 18.....	80	81	77
" 19.....	82	84	80
" 20.....	82	83	82
" 21.....	82	83	79
" 22.....	82	84	79
" 23.....	82	83	79
" 24.....	82	84	79
" 25.....	82	84	79
" 26.....	82	85	80
" 27.....	83	85	80
" 28.....	83	85	80
" 29.....	83	85	80

The following is the record of the closing prices on the various deals in futures each day during the week.

	July.	Aug.	Sept.
Thursday.....	73 1/2	69	68 1/2
Friday.....	72 1/2	67 1/2	67 1/2
Saturday.....	71 1/2	67 1/2	67
Monday.....	72 1/2	68 1/2	67 1/2
Tuesday.....	71 1/2	67 1/2	67
Wednesday.....	72 1/2	69 1/2	69 1/2

The visible supply of wheat in the United States and Canada on Saturday last was 17,225,000 bu., as compared with 19,089,000 bu., the previous week, and 18,794,000 bu. at the corresponding date in 1897. The decrease for the week was 1,864,000 bu.

Shipments of wheat from India continue heavy as compared with last year. The total for the season so far is 2,000,000 quarters or 16,000,000 bu. The season begins April 1st.

The official estimate of the crop in the northwestern provinces of India and the Oude is for a total yield of 8,300,000 quarters or 68,400,000 bu., which is about an average, but about 12,000,000 bu. more than last year.

The Modern Miller says: "The wheat harvest shows considerable change for the worse since last week. Our correspondents are forced to admit that actual damage has been done the crop by excessive rains in Texas, Oklahoma, Tennessee, Arkansas, Kansas and Missouri. In Missouri and Illinois rust has caused damage, and disappointing yield is reported over a large area of Missouri, Illinois and sections of Indiana."

One of the causes for the weaker feeling in wheat is the lessened demand for spot in the leading markets of Europe, the result of dealers wishing to clean out all old wheat before the new crop comes on the market. This is also the case in the leading markets of this country.

Wheat receipts in the northwest are not more than 25 percent of the arrivals at same time last year.

Broomhall, of the Liverpool Corn Trade, sends the following by cable: Reports from Argentina mention unseasonable weather and locusts. Russian shipments are decreasing, but this may be the result of lower prices, not a shortage in stocks. Crop reports from Russia and Roumania are less satisfactory.

The Hungarian wheat crop will not prove as large as estimated some weeks ago.

DAIRY PRODUCTS.

BUTTER

With a slackening up in receipts there is a stronger tone to the market, and this is so of all grades of reasonably good butter. The recent rains have put pastures in excellent shape, and we look for some increase in receipts as the result of the greater flow of milk.

Upon the whole, however, conditions have improved in the butter market. Quotations are as follows: Creamery, 16@17c.; choice dairy, 13@14c.; fair to good dairy, 11@12c.; common dairy, 10c.; low grades 7@8c. per lb. At Chicago the market holds about steady with a fairly active demand at unchanged prices. Quotations are as follows:

Creameries, extras, 16c.; firsts, 15@15 1/2c.; seconds, 14@14 1/2c. Dairies, extras, 13 1/2c.; firsts, 12@12 1/2c.; No. 2, 11 1/2c. Ladies, extras, 12c. Packing stock, 10@11c. The New York market is firm with a fairly active demand. The better grades are in the best demand and firmest. The outlook favors a steady market. Quotations are as follows: Western creamery, 13 1/2@17c.; western factory 11@12 1/2c.; Elkins, 17c.; imitation creamery, 12@14c.; state creamery, 13 1/2@16 1/2c.; State dairy, 12@16c.

At Elgin this week the market opened at 16c. for creamery, with a firm tone, and some sellers withdrew their offerings.

CHEESE.

With the offerings entirely of new cheese, the market has got down to bottom, and 7 1/2c. is the regular jobbing quotation for the best full creams. It is probable that makers secure about the same price for their best goods in small lots. At Chicago the market is fairly active, with a steady tone and no change in values. Quotations are as follows: Young Americas 7 1/2@7 1/2c.; twins, 7@7 1/2c.; cheddars, 7@7 1/2c.; Swiss, 11 1/2@14 1/2c.; limburger, new, 5@5 1/2c.; brick, 5@

6 1/2c. The New York market is firm and active, with values higher on the best grades. Quotations are as follows: State, full cream, large, colored, and white, fancy, 7 1/2@7 1/2c.; choice, 6 1/2@7 1/2c.; good to prime, 6 1/2@6 1/2c.; common to fair, 5 1/2@6 1/2c.; small, colored, and white, fancy, 7 1/2@7 1/2c.; good to choice, 6 1/2@7c.; common to fair, 5 1/2@6 1/2c.

The Liverpool market is quoted firm and higher, with finest white and colored American selling at 36s. 6d. per cwt., an advance of 2s. per cwt. over prices reported two weeks ago.

WOOL.

The wool market at present is in a quiescent state. Neither buyers nor sellers are anxious to do business at present. Buyers insist that prices in the interior are too high, as compared with eastern markets, and this is undoubtedly true. But holders believe that prices at the east are not a fair criterion of wool values, and will undoubtedly advance later on, hence their unwillingness to do business on the basis of present prices. As a matter of fact the market now is not a good one to sell in. Manufacturers are holding off, and are not likely to be heavy purchasers before September without something unexpected takes place. But it is not a weak market by any means; on the contrary it is a feature of the situation that every desirable grade of wool is firm. Probably good medium wools and Merino fleeces show up a little the strongest, owing to a better demand for these grades at present. At interior points in this State quotations range as follows: Unwashed fine, 14@16c.; washed fine, 19@21c.; unwashed medium, 19@20c.; washed medium, 23@26c. These figures represent the average range of prices paid, but in the case of very heavy, unwashed fleeces, or where the fleeces are dirty or seedy, discounts from these prices would have to be made.

At Boston the past week there was a fair average amount of sales. Values held steady, and holders did not push sales, not being at all anxious to get rid of stocks. Washed fleeces are the slowest. In fine wools XX and above ranges about 29c., while No. 1 and delaine fleeces are held at 30c. per lb. Australian wools are quiet and slow of sale.

The following are the quotations for leading descriptions: Ohio and Pennsylvania fleeces X and above 25 to 26c.; XX and above 29 to 30c.; delaine 30c.; No. 1 combing 30c.; No. 2 combing, 29c.; Michigan, Wisconsin, etc., X Michigan 23c.; No. 1 Michigan combing, 20c.; No. 1 Illinois combing 20c.; No. 2 Michigan combing 28c.; No. 2 Illinois combing, 28c.; X New York, New Hampshire and Vermont 22 to 23c.; No. 1 do., 28c.; delaine Michigan 28c.; unwashed medium Kentucky and Indiana quarter blood combing, 22 to 23c.; do. three-eighths, 22 to 23c.; Missouri quarter blood combing, 21 to 22c.; lake and Georgia, 19 to 20c.; Texas wools, spring medium (12 months) 16 to 18c.; scoured 40 to 42c.; spring fine, (12 months) 16 to 17c.; scoured 43 to 45c.; territory wools, Montana fine medium and fine 15 to 16c.; scoured 45c.; staple 48c.; Utah, Wyoming, etc., fine medium and fine 14 to 15c.; staple, 48c.; scoured 43 to 45c.; Australian, scoured basis, combing superfine, 70 to 72c.; do. good, 65 to 68c., do. average, 62 to 65c.; Queensland, combing, 65c.

The fourth series of wool sales opened in London on Tuesday, with a good attendance of buyers, but none from the United States. The bidding was spirited, with fine cross-breds selling firmly at the rates of the last series, and ruling rather in sellers' favor.

DETROIT PRODUCE MARKET.

Detroit, June 29, 1898.

FLOUR.—Quotations on jobbers' lots in barrels are as follows:

Straights.....	\$4.75
Clear.....	4.50
Patent Michigan.....	5.25
Low Grade.....	4.00
Rye.....	4.00

CORN.—The visible supply of this grain on Saturday last in the United States and Canada was 22,424,000 bu., as compared with 22,172,000 bu. the previous week, and 16,913,000 bu. at the corresponding date in 1897. Quotations in this market are as follows: No. 2 32c.; No. 3, 31 1/2c.; No. 2 yellow, 33c.; No. 3 yellow, 32 1/2c. per bu.

OATS.—The visible supply of this grain in the United States and Canada on Saturday last was 7,609,000 bu. as compared with 7,088,000 bu. the previous week, and 9,035,000 bu. at the corresponding date in 1897. Quotations are as follows: No. 2 white, 28 1/2c.; No. 3 white, 28 1/2c. per bu.

RYE.—The visible supply of this grain in the United States and Canada on Saturday last was 1,017,000 bu., as compared with 1,039,000 bu. the previous week, and 2,292,000 bu. at the corresponding date in 1897. No. 2 now quoted at 43c. per bu.

FEED.—Jobbing quotations on carload lots are as follows: Bran and coarse middlings, \$14; fine middlings, \$15; cracked corn, \$15; coarse cornmeal, \$15; corn and oat crop, \$15 per ton.

BEANS.—Nothing doing in spot. July delivery quoted at 9c. per bu., and October at 9c.

EGGS.—Fresh receipts, 9 1/2c. per doz.; candled, 10@10 1/2c. per doz.

POULTRY.—Trade quiet. Live quoted as follows: Spring chickens, 13@14c.; fowls, 6@8c.; ducks, 8@9c.; turkeys, 8@9c.; dressed fowls, 8@9c. per lb.

DRIED FRUIT—Quoted as follows: Evaporated apples, 8 1/2 to 9c.; evaporated peaches, 10 to 12c.; dried apples, 4 1/2 to 5c.; apricots, 7 1/2 to 12c. per lb.

BALED HAY.—Best timothy is quoted at \$9.50 per ton.

APPLES.—New quoted at \$1.10@1.25 per box.

MARPLE SUGAR.—Pure quoted at 10 to 11c. per lb.; mixed 8 to 9c. per lb.

HONEY.—Quoted at 9 to 11c. per lb. for ordinary to best.

TALLOW.—Quoted at 3 1/2 to 3 1/2c. per lb.

CABBAGES.—New quoted at \$1.25 per bbl.

POTATOES.—Old Michigan stock quoted at 45 to 50c. per bu.; new southern, \$2.50 to \$2.75 per bbl.

HIDES.—Quotations are as follows: No. 1 green, 7 1/2c.; No. 2 green, 6 1/2c.; No. 1 cured 5c.; No. 2 cured, 8c.; No. 1 green, calf, 10c.; No. 2 green calf, 8 1/2c.; No. 1 kip, 7 1/2c.; No. 2 kip, 8c.; sheepskins as to wool, 90c. to \$1.25; shearlings, 12c. to 20c.

PROVISIONS.—Barrled pork has declined and the market is weak. No other changes. Quotations are as follows: Mess pork, \$10.50 per bbl.; short cut mess, \$12; short clear, \$12; compound lard, 5 1/2c.; family lard, 6 1/2c.; kettle lard, 7 1/2c.; smoked hams, 8 1/2c. @8 1/2c.; bacon, 8 1/2 to 8 1/2c.; shoulders, 6c.; picnic hams, 6 1/2c.

COFFEE.—Roasted Rio, ordinary, 9c.; fair 11c.; Santos, good 14c.; choice 18c.; Maracaibo, 20 to 25c.; Java, 26 to 30c.; Mocha, 28 to 32c.; package coffee sold on the equality plan on a basis of \$9.50 to \$10.50, less 75c. per 100-lb. case in New York.

OILS.—Linseed is lower, as is lard oil, while turpentine is higher. Quotations are as follows: Raw linseed, 42c.; boiled linseed, 44c. per gal. less 1c. for cash in ten days; extra lard oil, 51c.; No. 1 lard oil, 31c.; water white kerosene 8 1/2c.; fancy grade, 11 1/2c.; deodorized stove gasoline, 8 1/2c.; turpentine, 31 1/2c. per gal. in bbl. lots.

HARDWARE.—Latest quotations are as follows: Wire nails, \$1.60; steel cut nails, \$1.50 per cwt. new card; axes, single bit, bronze, \$5; double bit, bronze \$8.50; single bit, solid steel, \$6; double bit, solid steel, \$8.50 per doz.; bar iron, \$1.35; carriage bolts, 75 per cent off list; tire bolts, 70 and 10 percent off list; painted barbed wire, \$1.65; galvanized do., \$1.95 per cwt.; single and double strength glass, 80 and 20 per cent off new list; No. 9 annealed wire, \$1.50 rates.

OUR BUFFALO LETTER.

EAST BUFFALO, June 27, 1898

The cattle trade for the week after Monday was fairly active, with moderate offerings. Calves were in good demand on the basis of 6@6.25 for choice to extra. Sheep and lambs were steady under good demand and moderate offerings. The hog trade was somewhat erratic but the offerings were not large for the week. The total offerings of cattle today were 157 loads and consisted mostly of stockers, cows and common grassy kinds. Trade opened slow and generally 10@15c lower, except stockers, which were a quarter lower. Cows were generally lower by 15@20c. The attendance of buyers was small and prices were weak except on the scarce desirable kinds. Export cattle in light supply, fair demand. The basis was \$5@5.10 on this kind. Calves in moderate supply, fair demand, steady, on the basis of 6@6.25 for choice to extra. Prices on grassy stuff weak and irregular. The market closed very dull for fresh cows, prices irregular and generally lower. Export steers, good to best, 1380 to 1500 lbs. \$4.90@5.10. Butchers' steers, good to best 900 to 1200 lbs. 4.60@4.75. Butchers' bulls, common to good, 2.75@3.65. Bologna bulls, common to good.... 3.00@3.40. Feeder bulls, good to best.... 3.65@3.85. Stock steers good to best, 600 to 800 lbs. 4.20@4.40. Heifers, fair to best.... 3.75@4.65. Heifers, common.... 3.50@3.75. Fat cows, good to best.... 3.45@3.65. Fat cows, common to good.... 3.00@3.30. Fresh milkers, good to best.... 3.50@4.00. Springers, good to best.... 28.00@35.00. Calves, good to extra.... 5.50@6.25. Calves, common.... 4.50@5.00.

The offerings of sheep and lambs were 35 loads. The demand for the top grades was active and they closed out early. Yearlings, choice to extra, \$5.60@5.75, good to choice, 5.40@5.60, culs. \$4.25@4.75; spring lambs, choice to extra, \$5.75@6.25; sheep, good to extra, \$4.50@4.75; culs, \$3.50@4.25.

The supply of hogs was comparatively moderate, 80 loads; fair demand and generally strong on the desirable grades. Medium, 175 to 210 lbs average, \$4.20; good weight workers, \$4.10; light, \$4.05@4.07 1/2, mostly outside figures; good pigs scarce, active demand for good weights, and higher. Prospects good for pigs for some time, \$4.05@4.10.

The offerings of horses were about 300 head; fair demand and steady at the quoted prices. The special sale of high grade horses last week closed Saturday and was satisfactory, but prices were quite moderate.

Drivers, good to best.... \$9.00@140. Drivers, common to good.... 50@75. Draft, good to best.... 115@135. General purpose.... 40@75. Exporters.... 90@125. Cavalry.... 125@130.

REPRESENTATIVE SALES.

Cattle—4 cows 1000 lbs, \$3.50; 6 stockers, 810 lbs, \$3.80; 12 butchers, 1121 lbs, \$4.40; 7 do., 932 lbs, \$4.25; 17 Michigan stockers, 820 lbs, \$4.20; 15 do., 620 lbs, \$4.30; 19 do., 521 lbs, \$4.40; 24 do., 569 lbs, \$4.40; 36 do., 441 lbs, \$4.75; 11 butchers, 1140 lbs, \$4.40; 14 do., 1142 lbs, \$4.70; 16 butchers, 1245 lbs, \$4.65; 28 Canada stockers, 535 lbs, \$4.50.

Sheep and Lambs—98 sheep, 92 lbs, \$4.60; 53 yearlings, 90 lbs, \$5.60; 44 do., 80 lbs, \$4.60; 79 do., 71 lbs, \$5.60; 67 sheep, 101 lbs, \$4.75; 61 yearlings, 80 lbs, \$5.60.

Hogs—141 Workers, 169 lbs, \$4.12@5.61; 157 lbs, \$4.10; 116 do., 162 lbs, \$4.05; 56 medium, 210 lbs, \$4.20; 60 Workers, 177 lbs, \$4.1

Miscellaneous.

THE FARMER'S COMPLAINT.

BY L. M. STANLEY

Today as I wandered I heard a complaining, The wailings of woe from the farmers around, Who long had been playing for clouds and their raining To gladden the harvest and moisten the ground. The frost king had come as a cruel invader And smote the young harvest, just lifting its head— No sea king, or baron, or Spanish crusader E'er left in their wake such a multiplied dead. The wheat fields were bowed to the earth in submission, The daisy-decked meadows were saddened and drear, The orchard submitted in humble contrition And nothing was left but the brown and the sere. The corn fields besieged by the cutworms in legions, The clover fields pestered by midges and slugs Which came like the Gauls from the uttermost regions, The allies of worms and the beetles and bugs; The fly and the weevil the wheat are devouring— The canker worm swings on his gossamer thread, Let fall from the apple tree over him towering, Whose leaves by marauders are withered and dead, The heat is abnormal—the moisture deficient; The harvest is light and the prices are low; So the farmer 'mid all must be well-nigh omniscient And in every season must contend with a foe. Damascus, O.

THE SAMPSONS' SURPRISES.

A Fourth-of-July Story.

BY NELLIE BURNS.

Potty Sampson came out of the house from eating his supper and sat down on the kitchen door-steps. He took a Fourth of July poster from his pocket and unfolded it. It told of the big celebration to be held at Saxville, a town several miles distant, on the coming Fourth. Saxville was noted for its unique and generous Independence Day festivities. It drew the largest crowd on that day of any town for several counties around. Its enterprising citizens as well as the public purse, donated to these occasions with patriotic liberality.

The poster announced a variety of entertaining features for the day. Potty read it with keenest interest. He adored Fourth of July celebrations. Not from any patriotic sentiment, but for the exciting amusements—particularly the athletic feats performed by the boys and young men. It was that part of the program that now claimed his eagerness. And what gave it added zest, were the unusually fine prizes offered in connection with the sports. There were also prizes of a comical nature offered, to add variety and fun. The fattest woman to exhibit herself would receive a prize of a bicycle. The homeliest man on exhibition would have a consolation for his uncomeliness in a fine full-length, plate-glass mirror. These were samples of some of the unadaptable and paradoxical rewards. Potty read the program over and over, his enthusiasm increasing with each reading.

"To the person who catches the greased pig on the run—a good watch and chain."

This was the offer that at last claimed Potty's undivided interest. He had witnessed ludicrous attempts at catching greased pigs on several occasions. To his mind it was the acme of all fun, for it not only abounded in startling, laughable mishaps, but was a severe test of one's dexterity, endurance and strength. For the past two or three seasons an ambition had been growing in Potty to compete in some of the public sports. He was strong and agile, and determined as well. And he was aching for a chance to test his powers and his prowess. And now with this tempting prize as a spur, he resolved right there to try to catch the pig and win the prize.

It was not for himself that he wanted the watch. His father had never owned but a cheap, old watch, and it was no longer of much use. Potty knew how much he would appreciate a new watch. He felt a thrill of pleasure at the shadowy possibility, even, of his being able to make his father so nice a present. It was an inspiring stimulus to his ambition.

Potty almost forgot who he was and where he was, he was so interested in thinking the matter over. He had seized the idea with an absorbing enthusiasm. And among his plans he determined to keep the undertaking from his

parents, so that in the event of winning the watch, the gift would be wholly a surprise to his father.

"Potiphar, have you fed the calves?" called out Mr. Sampson from the barn.

"No, I haven't, pa."

"Well, it's time you're doing it."

"Potty got up and went into the kitchen, folding his poster on the way. There was no one in the kitchen, and with an air of secrecy he stuck the paper in a crack at the end of the cupboard, and went out about his work.

Mrs. Sampson saw Potty from where she sat in an adjoining room. "I wonder what that is Potty was hiding," she said. "I hope Potty isn't getting any silly ways about him."

She went to the cupboard and drew

Potty would be the pleasedest boy living to get a bicycle. He has wanted one so long. Of course I'd be laughed at for exhibiting myself, but that wouldn't do me any harm. We ain't able to buy Potty a bicycle, and twould seem a selfish kind of pride in me not to try to get him one if I could. I ought to think more of Potty's pleasure than I do of folks' opinions. Yes, I am going to try for it sure, but I won't let Potty or his pa know anything about it, and if I should chance to get the wheel it would be such a surprise to them.

Just as Mrs. Sampson reached this unselfish conclusion, a neighbor drove into the yard on an errand. As she left the kitchen to see her friend, who waited in her buggy, Mr. Sampson entered the

like that nice mirror! She's never had a mirror in her house 'at she could see the hull of'er in to once.

"What's the sense of a body being foolishly sensitive 'bout looks anyway?" continued Mr. Sampson, in philosophic reflection. "We're just as the Lord made us. Seems to me folks generally show more weakness 'bout their looks than anything else. No matter how homely a person is he won't believe it, even if he looks in the glass a dozen times a day. Now, I'm homelier than a mud fence and I know it. And if I can turn it to some account, why not do it? Yes, I'm going to try to get that mirror for Jane sure's I live. But I'll keep it a dead secret from Jane and Photiphar, so as to give 'em a surprise if I should get it."

A few moments later, Mr. Sampson, going to the back door, saw Potty making his way for the outer cellar door with a tin can in his hands. "I'm glad you thought to get salt for the cattle, Potiphar," he said. "I intended to tell you but I forgot it. Be sure they all get some."

Potty ran down the cellar steps and bent himself laughing. "Salt for the cattle is good" he chuckled. It was so dark in the cellar he could scarcely see. He passed by the salt barrel and groped his way to his mother's jars, and searched among them until he found the jar of lard she was using from.

Half an hour later the stars coming out in the sky were the sole witnesses of a circus out in the hog yard that should have had a more appreciative audience. Potty had shut up a half-grown pig, and smeared it from snout to tail with the purloined lard. He then turned it loose and began a series of attempts at the ludicrous feat of catching a greased pig. The pig, with offended pride at such treatment, led Potty a wild chase around the pen. Whenever he got near it he made a desperate grab at it, only to have the slippery creature go through his hands like an eel. Several times when missing his aim Potty went sprawling on the ground. The only thing he accomplished that night was to transfer a good share of the dirty grease from the pig to his hands and clothes, and get his combative spirit aroused.

"Never mind, sir pig," said Potty, grittily, as he climbed out of the pen. "I'll try it again tomorrow night. If 'perseverance conquers all things' I guess it'll conquer in catching greased pigs."

Potty's spirit was up. There was a brilliant picture in his mind of a victorious boy and a happily surprised father. It stimulated his pluck and inventiveness. The picture of failure had no place in his mental vision.

The next night after Potty's work was done, he again invaded his mother's lard jar, and went through the same performances with the same discouraging results. Night after night this was repeated. It was the seventh night of Potty's private circus that he first succeeded in catching the pig and holding him. He felt more satisfaction than Alexander did when he conquered the world. He was so elated he felt as though he would burst unless he told some one of his triumph.

But like the hard-sense boy that he was, Potty was not satisfied with this one victory. He remembered the old saw that "practice makes perfect." So every night the pig was made a martyr to his zealous ambition. And by the Fourth Potty felt that he had mastered the science of catching a greased pig.

One day at the dinner table Mrs. Sampson said: "This morning I went down cellar to get some lard to make pie crust, and I was shocked to see how that jar of lard I opened the other day is gone. I know somebody has been in it. There's been as much as six or seven pounds taken out."

"Well, now, that's queer," remarked Mr. Sampson. "But perhaps you've forgot and used it yourself, Jane."

"No, I haven't, I know I haven't. I opened it just last week, and I've made pies only twice since, and it was a twelve-pound jar. I know some one has been in that cellar that hadn't any business there. I think we had better lock that outer cellar door at night. We don't know who is prowling around."

If she had chanced to glance at Potty that moment the tale would have been out. His scalp even was crimson. He pretended to choke on his food, left the table and got a drink of water to hide his confusion. He thought he ought to say something, when he came back.

"Perhaps it was the dog, ma."

"Why, no, Potty, it couldn't be the dog. The jar was covered up all right—just as I always leave it."

* * * *

On the morning of the Fourth the Sampsons were ready at an early hour to start to the big celebration. No one saw Potty as he hid a bundle under the seat. It was some old clothes he intended wearing during the "pig circus" for he had on his good suit.



"I don't b'lieve there'll be a fatter woman there 'n I be."

out the paper and opened it. "Why it's nothing but a Fourth of July poster. Potty is always so crazy about the Fourth."

She sat down in a large chair by the window and went on to read the poster herself. She laughed at some of the amusements provided and the prizes offered. And like Potty, she was specially interested in one particular prize

room. He took a seat by the kitchen table and picked up the poster his wife had forgotten to restore to its hiding place. He read it all through. He was almost as enthusiastic on Fourth of July observances as Potty.

"Now that's a fine program," thought Mr. Sampson. "There's lots of fun in store for the Fourth."

As he continued glancing over the



"By golly! If there's a homelier man on the face of this earth than I be I never want to see him!"

—not the same one that interested him, however.

"What a ridiculous offer!" A bicycle to the fattest woman!"

As Mrs. Sampson said this an idea came to her that made her laugh.

"I do believe I'll try for it," she thought. "I don't believe there'll be a fatter woman there 'n I be. I weighed three hundred and twenty-one pounds the last time I weighed. And s'pose I should get a bicycle for Potty. Why

paper something in its contents seemed to impress him as being very amusing, for he began to laugh heartily. He got up and went to the little cracked looking-glass over the kitchen sink and took a good look at himself.

"By golly!" he exclaimed, "if there's a homelier man on the face of this earth than I be I never want to see him. Big, flopping ears, crooked nose, snaggle teeth, no hair, big mouth, squint eyes, leathery skin! How Jane would

As they rode away together each had a feeling of guilt. In the minds of all the same hope predominated—it was for the absence of the other two at the exhibition in which each one was to take part. Mrs. Sampson, in particular, had a dread of being seen on exhibition by Potty and his father. She knew it would furnish a life-long joke against her, particularly if she failed to win the prize.

This hope would have been realized by all, since the contests in which they were interested came off at about the same hour in the afternoon, had not the fat women's part of the show been delayed on account of the tardiness of one of the women who had registered for exhibition.

The afternoon was well advanced when Mr. Sampson, with a triumphant look on his face, was searching in the crowd for his wife. He was astonished to find her at last on an exhibition stand in company with two other women of ponderous proportions. A large crowd was gathered around them, indulging in good-natured raillery about the competing giantesses.

Mr. Sampson had never received such a shock in his life. To think of his modest wife in such a situation! He would never have dreamed even that she would do such a thing. He stood where she could not see him and watched proceedings. At last the decision was reached, and one of the judges stepped up to Mrs. Sampson and pinned a blue ribbon on her shoulder. A round of applause went up from the crowd

was proud of every ounce in her three hundred pounds.

"And now," said Mr. Sampson, laughing, "there's another surprise on deck. I've won a prize too, but I don't think either of you can guess what it is for."

"Why, Jim, what could it be for? Do tell us," urged his wife.

"It wasn't for my good looks," laughed Mr. Sampson. "In fact it was for being the homeliest man on exhibition."

"O, my goodness sakes alive!" cried Mrs. Sampson indignantly. "The homeliest man! How horrid! Why, Jim, you know you are not. I should just like to see the person who said that. I never in my life thought you were homely."

"Nor I, either," declared Potty, stoutly. "Pa is just as good looking as anybody."

Mr. Sampson gave both of them a grateful look.

"It isn't worth getting riled up," he said. "I don't think you'll mind it much anyway, Jane, when you see what a big and han'some mirror I won for you. It's almost as tall as I be. And that reminds me that I am to call at one of the furniture stores for it. I think I had better be at it for it's getting late."

"I'm to go the jeweler's for the watch," said Potty.

"And I want to see about my bicycle," remarked Mrs. Sampson.

"I hope we won't grow vain over our honors," said Mrs. Sampson, an hour



"If 'perseverance conquers all things' I guess it'll conquer in catching greased pigs."

"Bring out the bicycle and let her have a ride," some one called out.

The instant the exhibition was over she left the stand and was hurrying away when she met her husband. She was flushed and excited.

"What is the matter, Jane?" he questioned.

"Don't ask me, Jim," she replied half laughing. "I never felt so foolish in my life. I want to go home out of sight of folks. I know you'll be ashamed of me. I exhibited in the fat woman's show and got the prize—a bicycle—for being the biggest woman."

"Good heavens, Jane! I hope you are not going to learn to ride a bicycle."

"Indeed I'm not, it's for Potty. I am glad Potty is going to have a bicycle, but I wouldn't go through that again for six bicycles. Horrors! how that crowd did stare and laugh at us! I just wanted to evaporate out of sight, but I was built a little too solid for evaporation!"

At that moment Potty came hurrying up to where his parents stood, aside from the throng. The instant they saw him they knew something was the matter. He was flurried, excited, and happy looking. His breath came fast as when one takes violent exercise.

"O ma and pa," he began in gasps, "I beat, and I've won the prize."

"You beat? beat at what? and what prize?" asked his father in consternation. "Beat at catching the pig. I caught the greased pig, and I'm going to have a fine watch and chain, and pa I'm going to give it to you."

"Why—Potiphar"—began Mr. Sampson, but he could get no further, for he began to laugh. He laughed so immoderately it was some time before he could speak. And, as if his mirth were contagious, his wife joined him. Potty wondered what on earth they were laughing at. He had expected congratulations on his success.

"Well, if we havn't trumped up the most remarkable surprises on each other that was ever heard of," said Mr. Sampson, at length. "Potiphar, your ma has won a prize too—a bicycle—for being the fattest woman in the country."

"Why, ma!" laughed Potty, "a bicycle—and are you going to ride it?"

No, I am not, Potty, it's for you. It was a silly thing for me to do, I know it was, to display myself. I wouldn't have done it for anything else but to get a bicycle for you, Potty. I knew how much you wanted one."

Potty looked at his mother as if he

later, as they were driving homeward with their prizes in possession, "for surely no family ever before bore such remarkable distinctions. I know we will be the laughing-stock of the whole county."

"I think we have considerable consolation to help us bear them," replied Mr. Sampson, drawing out his new time-piece.

They had an "experience meeting" going home, and told how each had planned to surprise the others. "My, ma!" said Potty, "I thought I should bu'st that day at dinner when you said some one was stealin' your lard. Don't you 'member I choked and had to leave the table?"

"Well," laughed Mr. Sampson, "I guess we're a pair of us, all thru, so fur as deceivin' each other is concerned—and all for each other's mutual benefit!"

INCOMPLETE.

"I sent back that combination rolling pin, meat chopper, egg beater, potato masher, cake cutter, churn, and biscuit cutter. Bridget didn't like it."

"Why not?"

"No bicycle came with it."—Chicago Record.

THE WRONG STATION.

The Tramp—Yes, ma'am, I am a firm believer in the Biblical declaration that heaven will provide.

Lady with Mole on Her Nose—Well, just pass along to the next house. Heaven's provision train doesn't stop here, even when it is flagged.

THE HEATHEN.

Little John (after casting his penny into the fund for the Bamalam Islanders)—I wish I was a heathen!

Sabbath School Teacher—Oh Johnny! Why do you wish such an awful thing as that?

Little John—The heathen don't never have to give nothin'—they are always gettin' somethin'.—Harper's Bazaar.

N. E. A. Excursion to Washington via Michigan Central.

Special train will leave Michigan Central station, Detroit, at 8:30 p. m. July 5th with the above association and friends. Round trip rate of \$16.25. Tickets also on sale July 3, 4, 5, and 6. Full information at Michigan Central ticket office.

Fourth of July Rates.

The Chicago & West Michigan and Detroit, Grand Rapids & Western Lines will sell excursion tickets between all points in Michigan on July 2, 3 and 4 at one fare rate; return limit July 5.

GEO. DEHAVEN, G. P. A.

FROM THOSE WHO HAVE PURCHASED.

The watch is better than I expected for the price. Thanks for prompt and honest dealing.—E. J. Kappes, Kelso, Ind.

I received the watch and knife all right and well pleased with both. Yours truly, S. J. Stofer, Homeworth, O., April 20, 1898.

The watch you sent me came duly to hand, for which accept thanks. It is a beauty and gives good satisfaction. L. F. Heinlein, Bucyrus, O.

The watches received are "beauties;" am very well pleased with them. They certainly are perfection if they keep running as nicely as they start off. Accept thanks for your liberal premiums.—Louis Hall, Harrisville, O.

Mention Michigan Farmer when writing advertisers.

1898 High Grade BICYCLES

for Men, Women, Girls & Boys. Complete line.

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HOMELESS CHILDREN.

The National Childrens' Home Society, through its Auxiliaries, has provided 10,000 children with homes in good families. All children received under the care of this Association are of Special Promise in intelligence and health and are taught to earn their own living. The children are sent to work for families receiving them, on ninety days trial, unless a special contract is otherwise made. Homes are wanted for the following children: 12 Boys—ages 2, 5, 6, 7 and 8 years; healthy, good looking, and of good parentage. Brothers, and brothers and sisters are often received for placement. 18 Babes—boys and girls from one to six months old. Send two-cent stamp for books to The Michigan Childrens' Home Society, St. Joseph, Mich.

To stick things use Beware!! Take no substitute.

MAJORS' CEMENT.

BLACK DEATH.

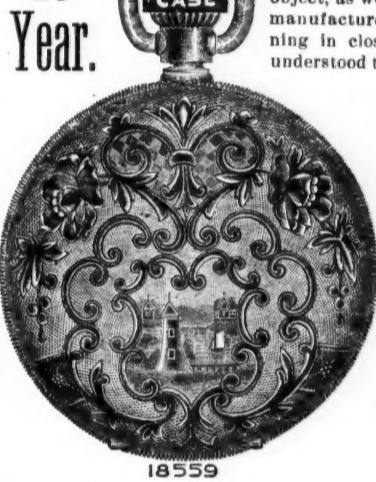
The best and cheapest insecticide on the market. Instant death to POTATO BUGS and will not injure the Vines.

A Fine Dry Powder Ready for Immediate Use. Recommended by Edward F. Dibble, the largest grower of seed potatoes in the United States. To introduce, special price, 100-lb. bag \$1. Agents wanted. Address for full particulars O-AT-KA CHEMICAL CO., LE ROY, N. Y.

SOME PLAIN WATCH TALK.

20
Year.

BOSS
CASE



18559

There is considerable talk about an advance in the price of Elgin and Waltham movements. Some time ago the price of these movements went down. The object, as we have learned, was to bring to time the manufacturer of another movement which was running in close competition to them. We have lately understood that an arrangement was about to be made to advance the price of these movements and stick to it. We give this information to our readers just as we got it and for what it is worth, but believe there is considerable truth in it, and we advise those who are thinking of buying to do so soon while the present prices exist. The cases are bound to advance if the war continues.

Here is What we Have to Offer.

A genuine Elgin or American Waltham 7-jeweled movement, latest design, expansion cut balance, safety pinion, stem wind and stem set, fitted in a genuine Jas. Boss 20 year 18 size hunting case.

For Only \$11.



SILVEROID



For a Cheap Watch

We can furnish the 7-jeweled movement as described above in a Jas. Boss silver-oid open face, 3-ounce case, with heavy beveled glass, which makes a watch similar to those carried by locomotive engineers, for Only \$4.50. Or the same case with an Elgin-made movement, 7-jeweled, only \$3.00.

GENUINE BARGAINS

at the prices we offer them, and are a saving from store prices of at least 25 percent. They are the finest of the kind made, both in movement and case. All movements are fully guaranteed to be free from mechanical defect and to be correct time-keepers. We pay postage on every watch.

A 10-year Boss filled case means that it can be carried every day for ten years before it shows wear; or on an average of every other day, for twenty years.

Remit by P. O. order, express, or registered letter. Address

THE MICHIGAN FARMER, Detroit, Mich.

FROM THOSE WHO HAVE PURCHASED.

The watch is better than I expected for the price. Thanks for prompt and honest dealing.—E. J. Kappes, Kelso, Ind.

I received the watch and knife all right and well pleased with both. Yours truly, S. J. Stofer, Homeworth, O., April 20, 1898.

The watch I ordered last January I received in due time. The watch is certainly a fine one and an excellent timekeeper. You saved me \$5 from store prices. Many thanks. P. Rupright, Marysville, O., April 26, 1898.

I received the watch you sent and am well satisfied with it. I am much obliged to you. We also received the knife. My father, Geo. Ott, your agent, received the rifle, knife and premium money. Thanking you for your prompt dealing, I am yours truly, W. J. Ott, Doylestown, O.

Grange Department.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

Address all correspondence for this department to

KENYON L. BUTTERFIELD,
AGRICULTURAL COLLEGE, - - - MICH.

News from Michigan Granges is especially solicited.

Owing to limited space and surplus of other matter the Grange editorials have been crowded out this week.

GRANGE NEWS.

Lime Creek Grange—Lenawee Co.—has ordered 1,000 pounds of binder twine.

Bee Hive Grange—Van Buren Co.—had but a small attendance at its meeting June 3.—V. H. Randall.

Monitor Grange—Gratiot Co.—is making up another order for binding twine and paris green.—Jennie Muscott.

Ash Center Grange—Monroe Co.—will celebrate the Fourth with a basket picnic in the grove of one of our Patrons.—E. H. Parish.

Clayton Grange—Genesee Co.—has sent an order for binding twine of 2,640 pounds. Have initiated three and have three applications.

Rural Grange—Sanilac Co.—has finished a contest. The contest supper was enjoyed by all. We shall soon begin our ice cream socials.—Jean Campbell.

Montgomery Grange—Sanilac Co.—discussed "The influence of the Grange on legislation." Also partly prepared an order for binding twine.—Alvin Keys.

Hopkins Grange—Allegan Co.—has received the binding twine which was ordered. All were well pleased. Fourth degree has just been given to four.—Mrs. H. H. H.

Pottowattamie Grange—Berrien Co.—cleared \$13 at its entertainment May 22. Are making our own berry crates. Gave first degree to four bright young men last meeting.—Mrs. W. G. Enery.

Alumina Grange—Muskegon Co.—June 18 discussed "How to make a happy home." The opinion was expressed that each member of the family should do everything possible.—Mrs. Dell Veits.

Ronald Grange—Ionia Co.—observed Memorial Day. Received another traveling library; this is enjoyed by all, although a few cry for more fiction. Sent an order for 1,750 pounds of binder twine.—Cora P. Waterberry.

Pomona Grange—Antrim Co.—met with Alba Grange June 15-16. Good reports from all the Antrim county Granges. We expect to have Bro. Aaron Jones, National Master, at our annual picnic at Eastport in August.—Liva McFarren.

Elbridge Center Grange—Oceana Co.—will have a Fourth of July picnic at Camp Houk. The Grange will purchase 1,500 pounds of binder twine. We mourn the loss of a respected brother, H. L. Kinnie. We also sympathize with the managers of the "Farmer" in their loss.—Miles Brown.

Fruit Ridge Grange—Lenawee Co.—gave second degree to six candidates next to last meeting. Also had description of Spanish possessions. At last meeting gave third and fourth degrees to six. We have received a ton and a half of binder twine and ordered more. The floral decorations for Flora's day, mentioned in another column were photographed.

Parkville Grange—St. Joseph Co.—has discussed "Rural schools," among other topics. The Grange favors the district school system. If there are defects, it is not in the system but in its operation. If there is any trouble, the farmers are not at fault, but the superintendents and the commissioners. In St. Joseph county we had a perfect district school system when Luther Antisdale was in charge. No inefficient teachers were allowed to teach. As a Grange, we ask that, if need be, a law be passed compelling commissioners to instruct teachers in the proper methods of teaching. We approve of Supt. Hammond's work in sanitary science in the schools. We are for progress all along the line. We demand the restoration of intellectual arithmetic. We want a real, not a fad, system of instruction.—Mrs. John Culbertson.

Ypsilanti Grange—Washtenaw Co.—met with Bro. and Sister A. R. Graves, June 4. Fourth degree conferred on three. After lunch Rev. C. T. Allen, of Ypsilanti, favored us with some inspiring remarks, and said, among other things: "Sterling manhood comes from the rural districts, and were it not for

this tide from the country the cities would fail on account of the vice and corruption within them. I believe the present to be an age of organization, and farmers as well as other people, must band together to foster their interests. The Grange is the means by which the farmers' interests have in the past been protected, and will in the future be even stronger. The Grange is organized for the social, moral, and intellectual development of the farmer, and ought to be supported by every man who tills the soil and has the interests of his life's work at heart."—Chas. L. Foster.

Pomona Grange—Charlevoix Co.—met with Barnard Grange June 17. The subordinate Granges of the county will each furnish an exhibit of fruit for the county fair in September, and compete for premiums offered for best Grange exhibit.

The second day of the fair will be known as Patron's day, and all Patrons attending will receive a badge from the secretary of the Pomona. One special feature of our meeting were the evening addresses, one by Prof. Meggison on "The farm as an educator," and one by Prof. Parmelee on "Good roads."

A DAY WITH VAN BUREN COUNTY PATRONS.

The evening of June 17th I arrived at Paw Paw, expecting to attend the Van Buren County Grange picnic on the 18th. Brother J. J. Woodman, secretary of the executive committee of the National Grange, met me at the train. Seated in his comfortable carriage we drove away expecting shortly to reach his hospitable home, but to my surprise he drew rein at Paw Paw Grange hall. We were ushered into the hall while the Grange was at recess and all were having a pleasant and social time. The Grange was soon called to order and I was invited to address the meeting briefly, which I did, after which lemonade and cake were passed and an hour spent in social converse.

Saturday was one of nature's most delightful and pleasant June days and at 9 o'clock we started to the picnic grounds, some nine miles distant, over a smooth gravel road, and through a rich agricultural country, well improved. Large, tasty and comfortable farm houses and barns and well kept yards and farms indicated a thrifty farming population, just such as any one would expect to find where the Grange is so popular and strong. The waving fields of golden grain just ripening for the harvest, the straight rows of well cultivated fields of corn, the orchards so full of promise, the herds and flocks grazing, apparently so contentedly, in the pasture fields, the beauty of the day, the charming road, the pleasant and genial companionship of my traveling companions, the elevating and instructive conversation interspersed with sparkling wit made the ride to the picnic one of great enjoyment and pleasure and the beautiful grove near Lawrence was reached much too soon.

Once upon the grounds beneath the broad, spreading branches of stately maple, walnut, and other forest trees, however, and observing the smiling happy countenances of the farmers as they drove on the grounds with wife and family and grandpa and grandma, it was evident that all had forgotten, for the time at least, all the troubles and disappointments of life as they stood in the refreshing shade of this leafy bower and observed how pleased and happy were all present. The little children seemed intoxicated with the pleasures of the occasion. While we enjoyed our ride in the fullest, yet when on the grounds where neighbors and friends clasped hands in friendly and fraternal greetings, where little children were given full scope to enjoy the occasion, and where lovers and sweethearts acted as though the day and occasion was especially provided to fill their cup of happiness to overflowing, all these seemed to lend an enchantment to the occasion while all seemed bent on making everyone present welcome and happy.

The noon hour arriving the well-filled baskets were opened, and casting conventional rules to the wind, the flow of wit and repartee was kept up while the many good things melted away as does the snow in an April sun. At 3 p. m. the master of ceremonies requested all to be seated and introduced Brother J. J. Woodman, who delighted the audience with some well-timed remarks and recitation. Sister Woodman was then introduced and spoke with great earnestness and force of the benefits the Grange was and is to the women. She pointed out in her clear convincing style that the Grange had come to the farmer's wife and lifted her out of the treadmill duties and life of isolation; that it had broadened and expanded her life and given to her the social and fraternal advantages her nature required and added immeasurably to her happiness.

Sister Woodman also spoke of the educational advantages the Grange gave to the young men and women, teaching them the rules governing parliamentary assemblies, and how to present motions and resolutions and how to think and speak in their defense, thus educating the young men and women of the Grange to be ready speakers and writers and advancing the cause of education, which is the great promoter of civilization. Sister Woodman's address was full of good points well made, and delighted the audience. The writer was then introduced and spoke briefly of the conditions and prospects of the order. Fraternally, Aaron Jones, Master National Grange.

UP-TO-DATE GRANGE DOINGS.

From two different correspondents we have a description of a Flora's day program and of an exhibit, both of these held at Fruit Ridge Grange hall. Probably it is well known that this Grange is Worthy Master Horton's home Grange, and when they do things down there they are done right. We quote from the letters of both correspondents.

FLORA'S DAY.

This was held May 28. "The hall was nicely decorated. At the beginning of the program Flora, attired as queen of May, and preceded by a retinue of twelve little girls appropriately dressed, entered the hall. She rode in a beautiful chariot drawn by six little boys, each boy dressed in pink coat and trousers with white trimmings, and white stockings and sandals. Before the procession reached the rostrum, the stage curtain was drawn, revealing Ceres and Pomona seated beside a veiled throne. At the command of two little magicians wielding their wands, the veil was drawn aside, and Flora, after being crowned, was seated upon the throne. Then followed the fairy dance by the twelve girls and six boys. The program was rendered to a packed house, and the audience was completely captivated."

THE EXHIBIT.

"An exhibit of sample articles representing the State Grange contracts was held at Fruit Ridge June 24. Had it been earlier, the exhibit would have been much larger. The exhibits were divided into three classes and committees appointed to examine and report. The following are some of the articles exhibited: Sewing machines, organs, harness, fences and fence posts, handy wagons, carriages, bicycles, feed cookers and heaters, plows, harrows, tedders, cutting boxes, scales, binder twine, etc.

"Besides having the exhibit, there was a discussion on the principles of co-operation. Bro. R. A. Woolsey, secretary of the Patrons' Mutual Fire Insurance Co., read a paper on the outlook for the company. Bro. Woolsey reported quite an accession to the company during the meeting in the amount insured. During the first six months of the existence of the society only 14 policies were written, but the society has boomed since then, and the amount insured now is considerably over \$400,000. Luckily, there has thus far been no losses."

SUBORDINATE GRANGE WORK DURING THE BUSY SEASON.

I must confess that the above subject is the hardest problem you have ever given me to solve. But before receiving your letter I had been thinking seriously about suggesting in The Farmer that each Grange in the State, during the summer season, raise money to procure proper regalia for the degree work. As lady assistant steward of the Michigan State Grange I am very much in earnest concerning this work.

The degree work in our order is so beautiful, so impressive, its teachings are of the highest order, so elevating to mankind and should be done with dignity and solemnity. And, I repeat, it cannot be made impressive without proper regalia. Now then as this is the season of strawberries and ice cream, lawn socials, peaches and cream, etc., etc., I would suggest that each Grange not having fitting regalia for conferring degrees take up this work during the summer, discuss it thoroughly in the Granges, then go to work. I think it will interest the young people; for what young man dislikes taking a lovely maiden to some Grange home on a beautiful summer evening where a lawn social is being held? Last summer our Grange, through the fruit season, had several meetings with not a brother present. The sisters carried on the program and had good times. We always discussed the questions which interested us the most, such as "Woman's rights of property" and "Woman's right of franchise." All Granges interested in these questions should give them serious thought and debate and come to State Grange next winter armed with resolu-

tions and stand by them until they pass. I intend saying something on these important subjects later on.

While sitting in Grange not long ago looking into the eager faces of the many Patrons assembled and wondering where all the young men were, there came, wafted on the soft summer breeze through the open window, the sharp command "shoulder arms." I confess I was startled for a moment. I thought Hesperia Grange had been surprised by the enemy. On looking out of the window into the grove across the way there stood a company of young men, our Grange boys amongst them as big as life, going through the military drill. Your question came before me. How are we going to keep these Patrons interested in Grange work through the busy season, during this excitement when the call to arms has sounded, and war, ruthless war, is the all absorbing topic, and our boys in blue are marching away to the southland, eager for the fray. The thought came to me, why not follow them by keeping posted as to their whereabouts on sea and land as best we can?

Some term the present war an educator. Well, as education is one of the fundamental laws of the Grange let us become conversant with this question of such vital importance, and know whereof we speak. It may be necessary to resurrect old geographies and atlases in order to be sure we are right.

A study of Spain, Cuba, and the Philippines, their ancient cities, harbors and coast defenses, their principal cities and what they produce that is best known to commerce, the climatic conditions of these countries, the people and their ways, are all interesting and timely topics.—Mary C. Robertson, Hesperia.

MRS. LUCY GOODWIN

Suffered four years with female troubles. She now writes to Mrs. Pinkham of her complete recovery. Read her letter:

DEAR MRS. PINKHAM:—I wish you to publish what Lydia E. Pinkham's Vegetable Compound, Sanative Wash and Liver Pills have done for me.

I suffered for four years with womb trouble. My doctor said I had falling of the womb. I also suffered with nervous prostration, faint, all-gone feelings, palpitation of the heart, bearing-down sensation and painful menstruation. I could not stand but a few minutes at a time.

When I commenced taking your medicine I could not sit up half a day, but before I had used half a bottle I was up and helped about my work.

I have taken three bottles of Lydia E. Pinkham's Vegetable Compound and used one package of Sanative Wash, and am cured of all my troubles. I feel like a new woman. I can do all kinds of housework and feel stronger than I ever did in my life. I now weigh 131 $\frac{1}{2}$ pounds. Before using your medicine I weighed only 108 pounds.

Surely it is the grandest medicine for weak woman that ever was, and my advice to all who are suffering from any female trouble is to try it at once and be well. Your medicine has proven a blessing to me, and I cannot praise it enough.—Mrs. LUCY GOODWIN, Holly, W. Va.

WABASH THE SHORT ROUTE

Home-seekers and California tourists write
R. G. BUTLER, D. F. & P. A.
9 Fort St. West, (Hammond Building.)

GRAND TRUNK RAILWAY SYSTEM.

City Office, 24 Woodward Ave. Both Phones 39. Brush street depot. "Daily. Except Sunday."

EAST VIA WINDSOR.

Leave. Pt. Huron, & P. M., north... 9:00 pm
12 noon Buffalo, New York..... 1:30 pm

1:30 pm Pt. Huron F. & P. M., north... 6:00 pm
4:30 pm Chatham, London, etc..... 5:30 pm

4:40 pm Pt. Huron and Int. stations... 9:15 pm
London accommodation..... 9:05 pm

EAST VIA PORT HURON.

11:55 am Pt. Huron, & P. M., north... 9:40 am

2:05 pm Toledo, Monroe, etc., New York... 2:00 pm

4:15 pm Pt. Huron F. & P. M., north... 6:00 pm

4:30 pm Chatham, London, etc..... 5:30 pm

4:40 pm Pt. Huron and Int. stations... 9:15 pm

4:40 pm Toronto, Buffalo, New York... 6:45 am

D. & M. DIVISION.

6:55 am Saginaw, Muskegon, G. Rapids... 9:20 pm

9:15 am Pontiac Suburban..... 1:55 pm

11:00 am Gd. Rapids, Gd. Haven, Chicago... 3:40 pm

4:05 pm Saginaw, G. Haven, Milwaukee... 11:50 am

4:45 pm Pontiac Suburban..... 8:10 pm

8:40 pm Chicago via Durand (sleeper)..... 7:05 am

8:50 pm Mixed Gd. Rapids Int. stations... 7:05 am

Horticultural.

For The Michigan Farmer.
THE GARDEN.

Every year there are inquiries for late cabbage plants from those who for some reason are not supplied with stock. Frequently the supply for winter is lacking because the seed did not grow well or the young plants were destroyed. In such a case the seed may be planted as late as the 1st of July and if the early or quick growing varieties are selected there should be good heads before winter. The seed is planted in hills and when the plants are large they are thinned to a single stalk. There is no set back from transplanting and not much to fear from the cutworm. There are some who prefer this method of raising cabbages to that of starting in a seed bed. It is not to be expected that the early varieties will produce as large, fine heads as the late kinds, but we find that they can be kept well if grown late, and the size is of minor importance in the case of vegetables for home consumption.

* * *

On visiting the grounds of a truck farmer this summer while tomatoes were being set out in the field we were surprised to notice that the plants were beginning to turn yellow, as though from neglect, and were still more surprised to find that this was exactly what was desired. The plants had been set out in cold frames where they had been kept growing vigorously till within a week of the time for transplanting, when the beds had been left to dry up. The day before the plants were to be taken up the ground, now thoroughly dried out, was saturated, and water was again applied when the plants were moved. This looked like harsh treatment. The effects were evident in the appearance of the leaves, but the results were good. The roots that have been dried will throw out a multitude of rootlets as soon as the soil around them is moistened, and the plant can then be moved without danger. The number of plants lost was exceedingly small when treated in this way, while the growth after being set was prompt and rapid. This is a method the opposite of what we had been accustomed to but if it is good enough for a man who raises tomatoes by the acre it will certainly do for us with our small garden.

The discovery of the good to come from this drying out process was accidental. The gardener one year found his supply of celery plants very short, and all that could be obtained were some that had been left standing in a bed after all that were needed had been taken up. These had been left to dry up as useless and the leaves had already turned yellow, but when set out it was found that they grew the best of any. The experiment was tried the next year and the results were so favorable that this is now a regular part of the treatment of the plants every spring. Tomatoes, celery, cabbages, and the plants which are set out are subjected to the treatment.

The plan is evidently a good one for plants that have been properly grown from the first. But if they have been overcrowded in the seed bed it might easily be carried too far. Such plants cannot endure hard usage, though the drying out process would probably be good in moderation.

* * *

For several years we have made out the list of seeds desired, and sent in the order during the winter or early spring. The results have usually been satisfactory. But this year we were short of some kinds when the time for planting came and purchased from a local dealer. The result was more marked than was expected. The latter seeds were not one-fourth as good as the former, and what few came up have been weak and slow in growing. This applies to small seeds only, which are sold principally in packages. The large seeds, beans, and peas which are sold in bulk have grown well. We have been told by persons supposed to know, that these seeds which are sent out for sale are sent out year after year till disposed of and there is reason to believe that such is the practice with some companies at least. When it is remembered that many seeds are not worth much after the first year, and that some others rapidly deteriorate after two or three years it is no wonder that there is so much dissatisfaction with this kind of stock. By the exercise of a little forethought the seeds may be obtained direct from the companies, and so far as our experience goes this is much better than buying the uncertain stock of retail dealers, no matter what name may be on the package. Usually companies offer inducements for orders sent direct to them in the way of extra seeds. They prefer

this trade to the other as it is more reliable and brings them in closer relationship with their customers. Naturally the best stock goes to this trade, while the refuse is worked off upon the other. A regular part of the year's gardening should be the selection and purchase of seeds. It is practical economy. If the plan is once adopted it is likely to be continued.—F. D. W.

NOTES FROM MY TRUCK FARM.

Marketing the strawberries.—We are now, June 15, picking and marketing strawberries. How to handle the crop so as to realize the most money from it is a question in which all growers are interested. If I can always grow fancy berries, and put them on the market in good order, I have always found it easy to market them at good prices, for such berries can be shipped to the cities nearest me; but how to dispose of a large crop of medium, or inferior berries when the market is overstocked is a problem. The one great essential to successful marketing is good pickers. I have many times resolved to employ women and girls above 14 years of age, and to allow no children or boys in the field; but to get berries picked to fill my orders, I must pick them sometimes when the plants are so wet that the women will not come and then I must go out on the street and find boys to pick the berries and the result is often poor berries and a loss of customers.

Picking stands holding four quarts should be furnished each picker and it is a good plan to have rules for picking printed on cards and attached to the stands or carriers, and on one side of the card write the name of the picker. The picker should be instructed to take hold of the stem, and not the berry, in removing berries from the plants, and that each berry shall go into the basket as soon as it is off the plant. No picker can hold several berries in the hand without bruising them. In finishing out a basket I have the hulls turned down, but tell the pickers to put only average sized berries on top.

I sometimes require the pickers to go over the rows a second time, to make sure of getting all the ripe berries, and the picking stands must be brought to the packing house as soon as filled, so that the sun will not injure the berries.

The system of keeping accounts with pickers which has proved the best with me, is that of giving checks or tickets for the berries when they are brought to the packing house. I use printed cards 1x2 inches with name of farm printed on it and the number of quarts it represents under the name. The numbers are from 1 to 4, and the cards are of different colors so that they may be more readily distinguished.

As I have indicated, successful marketing is getting out of the general competition in the medium grades of berries. I have been able to market my strawberries at the summer resorts near me at good prices. These accommodate rich people who pay large prices for board, and the proprietors can afford to pay well for fancy Marshalls and Bubachs. The trade with these houses is somewhat irregular and with sometimes 30 or 40 bushels of berries to dispose of in one day, I have a surplus after filling their orders. This is sold from the market wagon in my own and nearby villages.

The berries are usually picked late in the afternoon, when there is no dew, and then it is cooler for the pickers; the berries are kept over night in the cooler and go out very nearly as fresh as if just picked.

Our New Strawberry bed.—I am asked by some correspondents about the best plan of managing the new bed which is of fruit next year. Such information is now timely, as the new runners are growing and they must be in some way disposed of. How many shall we allow to set plants will depend on the method of culture we decide upon. I have tried about every plan, and have settled on the following: I set the plants in rows 2½ feet apart, and 18 inches apart in the row. We have just cultivated and hoed the new bed of one acre. All the runners and blossoms on the small and weak growing varieties, were removed. Large, strong plants growing in rich soil in the tests I have made by removing blossoms from alternate rows, are not injured by bearing fruit the first year. No runners will be allowed to set plants until July, when one runner is trained to set a plant between the plants, making a row of plants 2½ feet apart and 9 inches apart in the row. The plants are cultivated with the Planet Jr. 12-tooth cultivator to which is attached the disc runner cutter, which cuts most of the runners. About the 1st of August I allow sufficient runners to set to make a row of plants 16 inches wide, leaving a 14-inch space for the pickers. This plan gives opportunity of doing more culti-

vating and runner cutting by horse power than the one of wide matted rows to be hoed and weeded by hand all summer, and the narrow rows produce much finer fruit.

Recurring again to the matter of cutting the blossoms or fruit stems from newly set plants, it is a question in my mind as well as the minds of other horticulturists, whether restricting fruit bearing plants by cutting fruit buds year after year does not reduce the productivity of the plant, so that after a time, it will yield less fruit. Some experiments in this line would be valuable as I think we have no reliable data on the subject at present.—W. H. Jenkins, Delaware Co., N. Y.

PEACH BORER AND LEAF CURL.

I planted an orchard of 500 peach trees. Would like to know the best method to pursue to prevent the injury done by borers. Will it be of any use to put a small heap of ashes around the trunk of each tree? Have been told that this was a sure remedy. If useful, when should it be put about the trees? We are troubled in this section with curly leaf blight. Will it pay to spray with whale oil soap this late in the season? I have read that it was a preventive. Please give a brief life history of the borer. C. A. F., Pulaski, O.

Reply: The question in regard to leaf curl I have answered in the preceding. The parent of the peach tree borer is a moth that bears a very striking resemblance to a wasp, and as these moths fly in broad daylight, the resemblance becomes still more marked. These moths appear in the south as early as the middle or the latter part of May, while in Canada they may appear as late as August. The female moth is the larger and is of steel blue color with a yellow band across the body; the male is also of a steel blue color but has golden yellow markings and a satin-like lustre. The female deposits her eggs singly, on the surface of the bark, fastening them by gummy secretion, and the aim appears to be to stick them just as near as possible to the collar of the tree. That is, as near as she can get to the point where the yellow of the roots fades to the reddish color of the bark. The eggs are about one-fiftieth of an inch long and of a dull yellowish color. As soon as the young hatch they burrow directly downward, aiming to get into the yellow zone as soon as possible, as it is there that they are best able to subsist upon the inner bark. The wound that the larva or young borer makes causes the sap of the tree to ooze out, and drying, forms a gummy substance which is filled with excrementitious matter ejected from time to time by the borer. The borer at this time has little resemblance to the adult moth, though fully as much as the cutworm resembles the miller to which it later transforms. The full grown larva or grub, it might much more properly be called a caterpillar, is naked, soft-bodied, cylindrical, of a pale whitish-yellow color, with a reddish, horny head and jaws; its claw-like feet are tipped with brown. These may be found during fall, winter and early spring, of various sizes in their burrows in the bark, surrounded by the gummy mass intermixed with the castings. As they get older, they sometimes work upward into the tougher bark, but it seems that the very young need the tender succulent portion just above the roots. When full grown the larva crawls to the surface of the ground and constructs a pod-like case, making this out of the excrement bound together with threads like spider's web. Within this cocoon it transforms to a brown oval chrysalis about three-fourths of an inch long. If the ground is loose or there is much loose bits of bark close at hand, the cocoon will often be found among this. In about three weeks the adult has become fully formed, when it bursts the chrysalis and pushes its way out of the cocoon.

From this it will be seen that there is but one annual generation, the pest wintering over as a worm in the bark of the tree which it attacks. There is no end of remedies, but the most effective and least expensive is to watch the trees carefully and as soon as the castings or dust and gummy substance appear, with a sharp knife cut the worms out and kill them. This is the method in general use. If the earth is mounded up about the bases of the trees during the period of egg laying the moth will understand that there is only tough bark within the reach of the young and will be less apt to deposit her eggs there. The mound of earth can be removed after the egg-laying season has passed. Some people draw away the dirt from about the base of the tree while the young borer is at work and pour hot water about the roots. This will doubtless kill the young borer without injury to the tree, but it is a cumbersome meth-

od and less practical than cutting them out. There has been no preparation found that can be applied to a tree that will prevent the moth from laying her eggs thereon.—F. M. Webster.

INQUIRIES ANSWERED.

THE PLUM APHIS, PLUM POCKET, ETC.

Enclosed find branch of peach tree badly curled and brown; a wild goose plum distorted, and a small round plum; the last is infested with some kind of insect.—J. S. M., Afton, Clermont Co., O. Reply: The trouble with the peach tree is peach leaf curl, which spraying with Bordeaux mixture early in the season would have helped, but it is too late now. The distorted plum is affected with what is known as plum pocket, another fungous disease that is quite prevalent this year. It is too late to spray for this also. The insect infesting young growth is the plum aphid. Spraying with kerosene emulsion or with a suds of 1 pound of whale oil soap dissolved in about 6 gallons of water will destroy all that can be reached. But the trouble is that so many are almost totally protected by the curled leaves that spraying is seldom a complete success. Tobacco smoke is sure death to these and all other species of aphides, and if your trees are small, it might pay to make a small covering out of strong manilla wrapping paper, pasting a number of sheets together so as to form a sort of dunce cap and, covering the top of the tree with this, burn tobacco underneath. I do not know but that tobacco smoke used with an ordinary bee smoker might be effective. Cigar smoke might do as well. Almost any device that will enable you to fumigate the infested parts, which is usually the young growth, will destroy this pest.

THE PLUM APHIS.

I send you some leaves picked from a plum tree (a Forest Rose) covered with some kind of bug or plant louse. This variety of tree is covered every year with them. Please tell me what they are and what to do for them. I have used kerosene emulsion, but you will see they are very much alive yet. I have Lombard trees standing close by, but they never trouble them.—S. A. W., Cardington, O.

Reply: The reply to "J. S. M." will also apply to your case, but your experience is especially interesting. I did not know that any variety of plum was immune to the attacks of this insect. The difference between the two varieties in this respect is certainly well worthy of record.

PROBABLY THE CANKER WORM.

There is a small greenish worm, ranging in length from one-fourth to one-half inch, eating my apple trees. The leaves are nearly all brown and are nearly eaten up. What is the remedy? Also peach tree leaves are turning brown and dropping off. What remedy for them?—J. D. P., York, O.

Reply: This is probably the canker worm, as this is present in several localities over the state. The parent moth is wingless and must crawl up the trunks of the trees in order to lay her eggs. This she does in early spring; the male being provided with fully developed wings, visits her there. The eggs are deposited in clusters and as soon as the young hatch they begin to feed upon the leaves. At this time they are not difficult to kill with a spray of Paris green and water, and probably the ordinary strength of four ounces to fifty gallons of water would suffice, but as they get older it will be necessary to add more poison and use slacked lime to prevent the injury to the foliage by the poison. If applied in time Paris green will destroy canker worms, but if the application is delayed until the worms are partly grown it will be difficult to manage them. A tarred band placed about the trunks of the trees in early spring will prevent the female moths from ascending the trees, and this is a very effective preventive if applied promptly and the tar is mixed with a little lard or tallow to prevent its drying and becoming hardened so as to let the moths walk over it. In any case the tar bands should be renewed every day.

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SENSE AND NONSENSE.

"A little nonsense now and then
Is relished by the wisest men."

NOT THAT KIND.

"Don't this old injury hurt you when you attempt to run?" asked the examining surgeon of a candidate for enlistment.

"Course it does. If yer looking for soldiers what's goin' to run, jest count me out."—Detroit Free Press.

OUGHT TO BEG.

"Please, sir, won't you give something to a poor cripple?"

"I have no money."

"If you haven't any money what are you walking around here for doing nothing? Why don't you go to work and earn some?"—Das Kleine Witzblatt.

DISCIPLINE.

"I hate to insist on my husband's taking me away for the summer," she said in tones of sympathy. "It costs a great deal of money."

"Why do you require it, then?" asked the mother.

"I've got to keep him in a stuffy hotel for a few weeks every year to make him appreciate the way I keep house."

SPREAD OF KNOWLEDGE.

"Where is Anson's archipelago?" asked the teacher of the class in geography.

And the boy with the pompadour said he guessed they were having it made over for Tom Burns.—Chicago Tribune.

NOT LITERAL

In a country newspaper appears the following announcement:

"A number of deaths unavoidably post-doned."—PICK-ME-UP.

IN TOUCH WITH THE TIMES.

"Fame is a wonderful thing, isn't it?" she said to the young man who was selling garden supplies.

"Yes," replied the statesman with some surprise. "it is certainly very wonderful."

"They are naming everyting after Dewey, now, aren't they?"

"I suppose there will be all sorts of articles put on the market with his name attached to them."

"Well, I don't like to follow all the silly fads that come and go. But when it comes to celebrating a real hero, it's different. I used to say that my daughter read a great deal of trash. But every now and then I must confess she comes across a really practical hint."

"Has she been giving you a new idea in the gardening line?" inquired the salesman with an uneasy glance at the clock.

"Yes; it was a piece of poetry, too. It went:

"The morning sun rose bright o'er dewy lawns."

"What I wish to get now is about four pounds of grass seed you plant to raise a Dewey lawn. I have made up my mind to have one, no matter how much trouble it takes."—Detroit Free Press.

Officer—"Is there sufficient coal to last through the day?"

Naval Recruit—"I don't know, sir; I'll ask the janitor."—Puck.

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Money talks, but the average man prefers it to a garrulous wife.

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"The digger arrived all right, although it was a long time on the way. I have given it a thorough trial, and this is the result. It digs all the potatoes, leaves them all in sight, and the ground in splendid shape. I just about saved the price of the digger in one day's work. I think there will be no trouble in selling them another year. For a starter three of my neighbors say they want one next year." Yours truly, M. D. Pickett, Okemos, Mich., November 13, 1897.

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